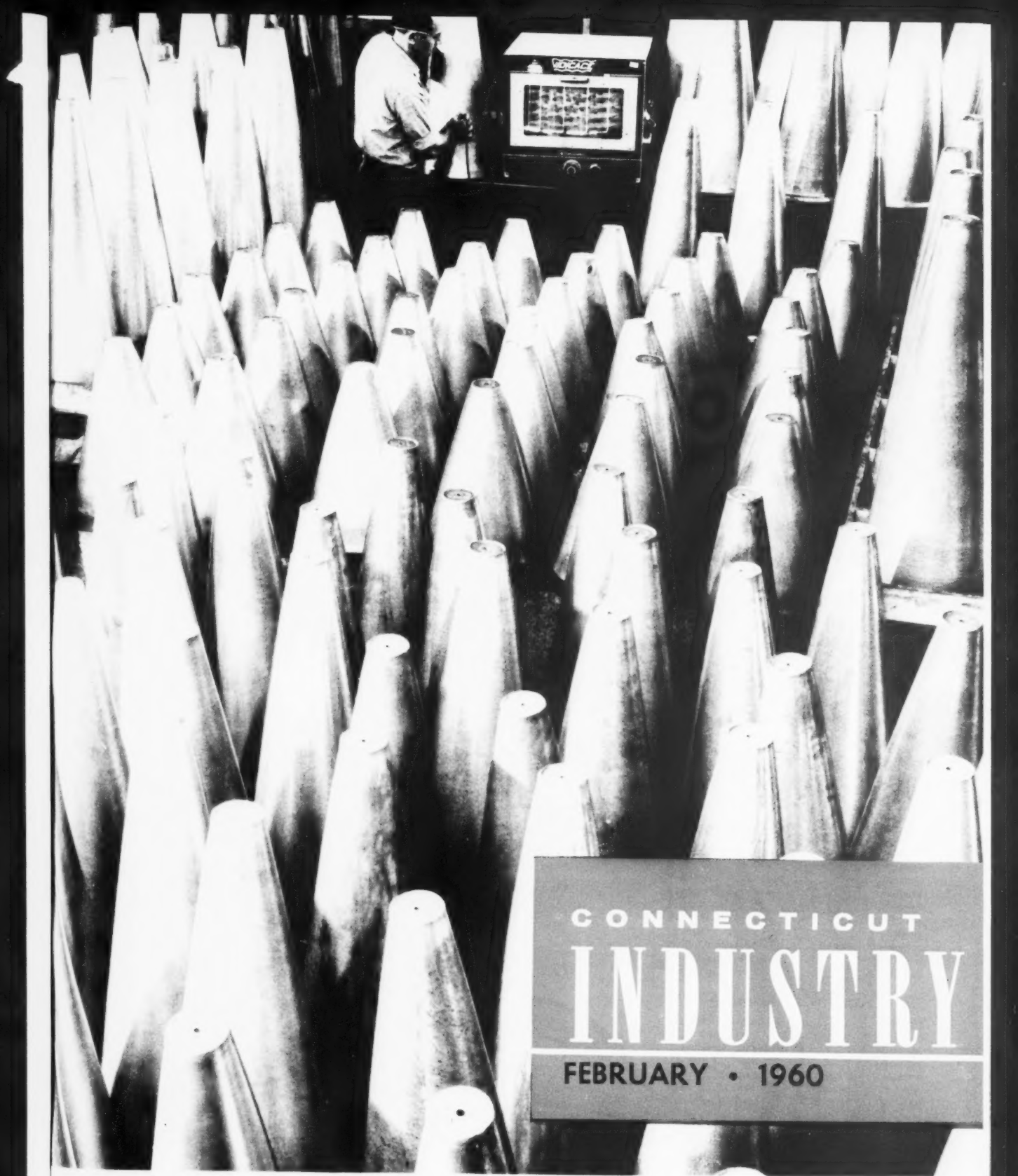
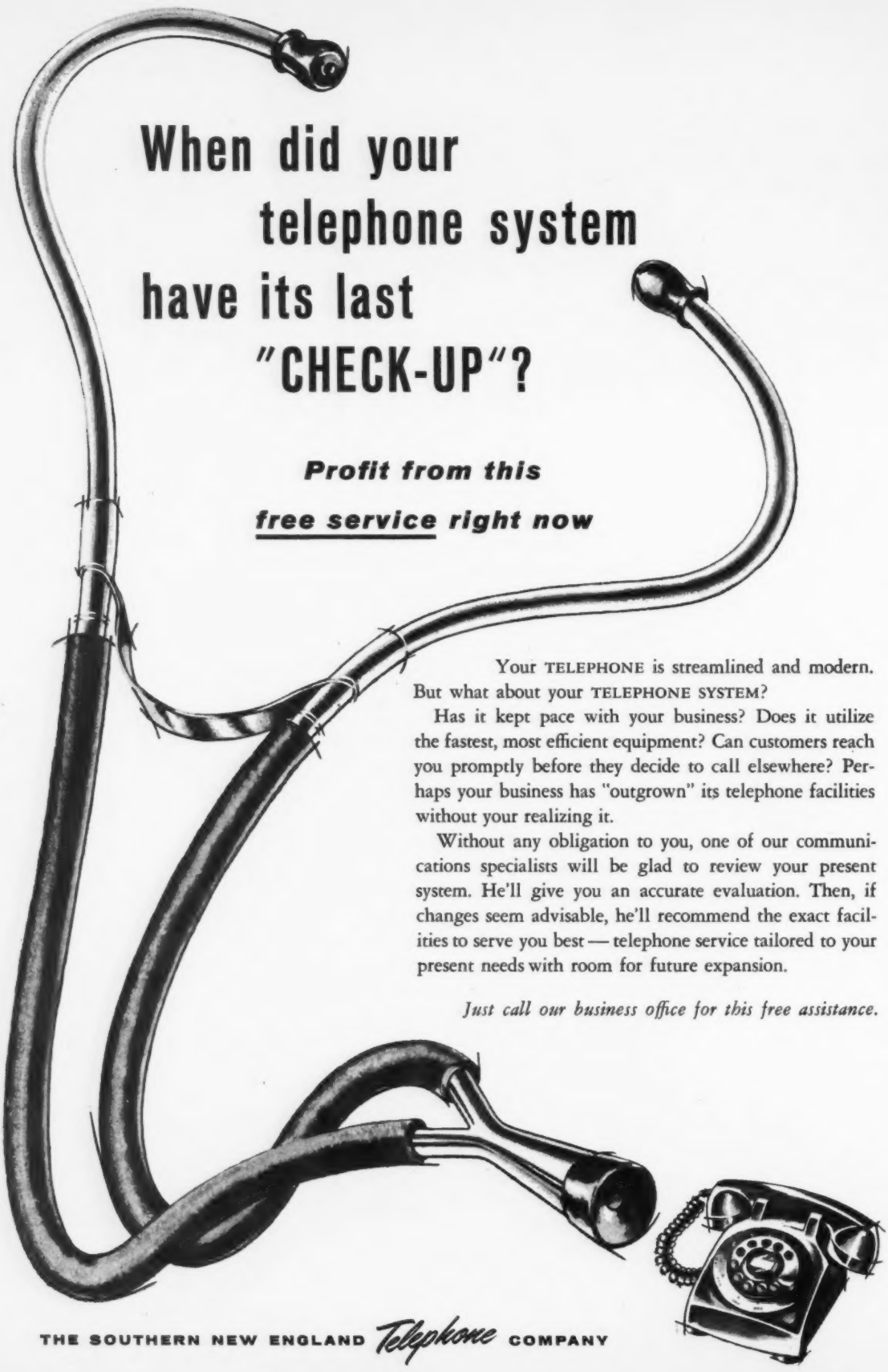


CONNECTICUT INDUSTRY

FEBRUARY • 1960

ULTRASONIC ENERGY – SUPER SERVANT OF INDUSTRY Page 6



When did your telephone system have its last "CHECK-UP"?

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Your TELEPHONE is streamlined and modern. But what about your TELEPHONE SYSTEM?

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THE SOUTHERN NEW ENGLAND *Telephone* COMPANY

CONNECTICUT
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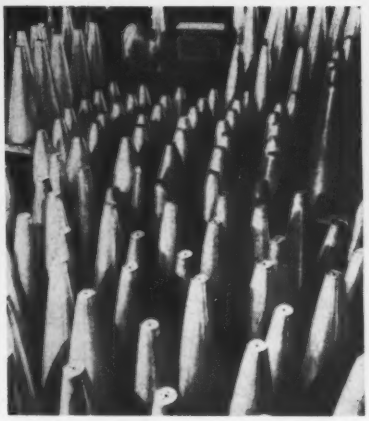
VOLUME 38 NUMBER 2



THIS MONTH'S cover photo shows aluminum nose cones for Nike-Hercules missile being inspected by Vidigage at Lycoming Division of Avco Corp., Stratford. When transducer is placed against the outside surface of cone, wall thickness is read directly from a scale in front of the cathode ray tube. Vidigage is a development of Branson Instruments, Inc., Stamford.

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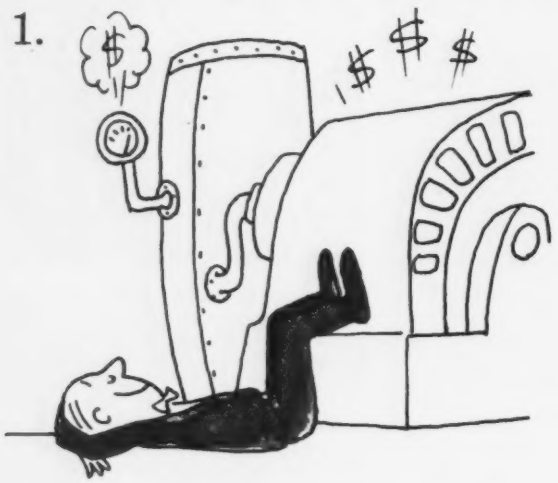
Bob discovers a new kind of safety valve

1.



Bob Steele was happily content, reclining on his spine,
Just lolling to the music of his turbines' whirry whine.
"It's money-making music," Robert smiled. A mighty crash—
A boiler blew, deflating Bob and turning off the cash.

2.

His Travelers man rushed in to find our hero deep in gloom.
"Our maintenance was adequate, why did the boiler boom?"
"Fret not," replied his trusty man, "if Lady Luck was mean:
Your *total* loss is covered under Boiler and Machine."

3.

We pay the costs to make repairs, to clean up all the mess,
Your fixed expenses, normal profits are assured, no less!
So while the work progresses, navigate the bounding main."
"A marvelous idea," Robert cried, "auf wiedersehen!"

4.

Now Bob is back, his plant intact, his future glad and free;
Cash registers and turbines join in cheerful harmony.
Why let ill fortune ruffle you? See Travelers 'fore it pops—
For even *pampered* boilers and machinery blow their tops!

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Insurance Companies
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We're proud to be making this important contribution to the long-service dependability of these nuclear-powered submarines.

Like all other components of their nuclear-powered propulsion machinery and equipment, the Foster Wheeler main condensers, shown above being tubed with Scovill Cupro-Nickel, 30% Heat Exchanger Tube, have passed the most exhaustive performance tests it has been possible to devise. The same tube specification is also being installed in the ejector condensers. All of the tube is electronically tested on new equipment at the Scovill Tube Mills before delivery.

Scovill Cupro-Nickel, 30% Heat Exchanger Tube has a long record of trouble-free service on U. S. Naval vessels and those of many other nations. It is a first choice of design and operating engineers where salt water or corrosion conditions are severe, particularly at elevated temperatures and when the circulating media travel at high velocities. The corrosion resistance is excellent; strength of the alloy remains constant over a wide temperature range.

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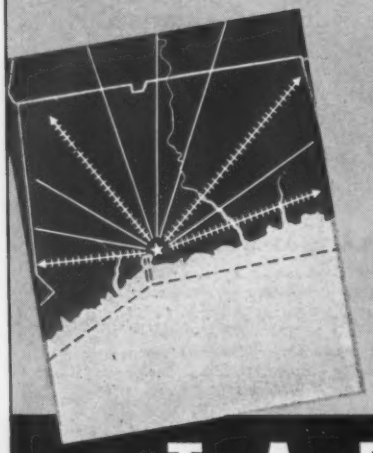

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Challenge to Management in the Sixties

♦ AS WE move into the second monthly lap of the Sixties with the heavy accent on generous predictions about expansion of our Gross National Product, increases in family income and shortened work weeks, it is time to pause for reflection about the long-range goals we are seeking and what actions are necessary to reach them. Granting that the past two decades have been as eventful as any in the history of the world, a careful evaluation of world trends leads to the conclusion that survival of freedom, American style, is likely to be determined in the 1960 decade.

With our Godless competitors in the Kremlin moving subtly, on time and according to a well publicized plan, with the most dangerous set of psychological weapons ever used by a would-be world conqueror, we can no longer indulge in the popular pastime of "sweeping our problems under the rug," if we still have any desire to preserve freedom for ourselves, our allies and for future generations of Americans.

Our present dilemma requires much serious self examination by our federal, state and local government administrations, by employers and by all of us as responsible citizens.

Are we truly grossly materialistic? Are we gadget worshippers? Are the scandals of TV, of radio disc jockeys and the low state of much of our entertainment indications that we have a moral sickness? Or, is a lack of ethical standards in these and other areas of our national life only a temporary departure from those moral standards spelled out by our Constitution, our Bill of Rights, and the religions to which our people claim allegiance?

Are we, as individual citizens, truly dedicated to the accomplishment of some worthy objective beyond collecting our pay checks?

Obviously, the answers to these questions will depend upon the point of view of those who answer them. If we belong to the school of eternal optimists we are likely to excuse unethical practices in government and business, low-grade entertainment and lawlessness as something that has always prevailed. We may say it only seems to be worse now because of our population growth and the more widespread exposure through our vastly expanded communications network. If we are inclined to be pessimistic we are likely to see our country in moral decay headed for the same fate as befell the Roman Empire.

If we are realists, we shall see the United States as a rich and powerful nation which need fear no enemy, but which has certain weaknesses we can and must overcome. Our critical weakness may be that we do not have great aims which we are united in wanting to achieve. We may be unduly affected by a desire to conserve, rather than to push forward and create. We cannot accept the notion that we are a completed society; that we have achieved our goal and have no further great business to transact.

The cycle of all great civilizations has been the same. From bondage to spiritual hope; from spiritual hope to revolt from slavery; from revolt to independence; from independence to wealth and plenty; from wealth and plenty to dependence on a central government; from dependence on a central government to moral decline and selfish indifference; and finally from moral bankruptcy and indifference back to bondage.

With strong evidence indicating that we are more than halfway around the cycle from "bondage to bondage", what is management's clear and present duty?

The weight of evidence over the centuries demonstrates that man is ruled by emotion rather than logic. It appears obvious that management must accent "heart" over "head" appeal if it would exert maximum influence for the long-range good of all, and the strengthening of our free enterprise civilization. Although some may label this approach as impractical, "soft sentimentalism", we do not mean it to be.

Management must manage to make a profit. Without this no worthy social good can be accomplished. Yet past experience indicates that the spirit of man can be stirred into even more productive and profitable action by appeals that make them members of a team striving for a humanitarian objective. This approach does not discount the need for more scientific management, lower taxes on business enterprise and many other improvements, both governmental and private, in order to win our long-range objectives. Instead, the awakening of a more purposeful spirit will speed the acquisition of these aids so necessary to the attainment of our objectives.

How can management stimulate among its employees this spirit to pursue a greater purpose?

No one is wise enough to answer that question with a pat formula that could assure good results in all the many widely diversified sizes and types of businesses that now exist. It must be a probing operation for each company management. It is subject to the trials and errors that accompany the search for better methods and the development of new products with sales appeal. In many ways the effort to stimulate a more purposeful spirit among employees in a given company is similar to the current effort of many companies to create a good corporate image. A first requisite to any degree of success in either effort is the possession of imagination and spirit by members of management. In addition, actions must match words to win the respect that begets followership toward a worthy goal.

Whatever methods are used to kindle the necessary effort, the task will be difficult. We must destroy the tentacles of statism closing in on us from within and the Godless soviet tyranny that threatens to enslave us from without. With the abundance of our tools of communication and technology it should be less difficult than for the founding fathers. Devoid of any of these tools, they pledged, with firm reliance on Divine Providence, their lives, their fortunes and their sacred honor, to make America free.

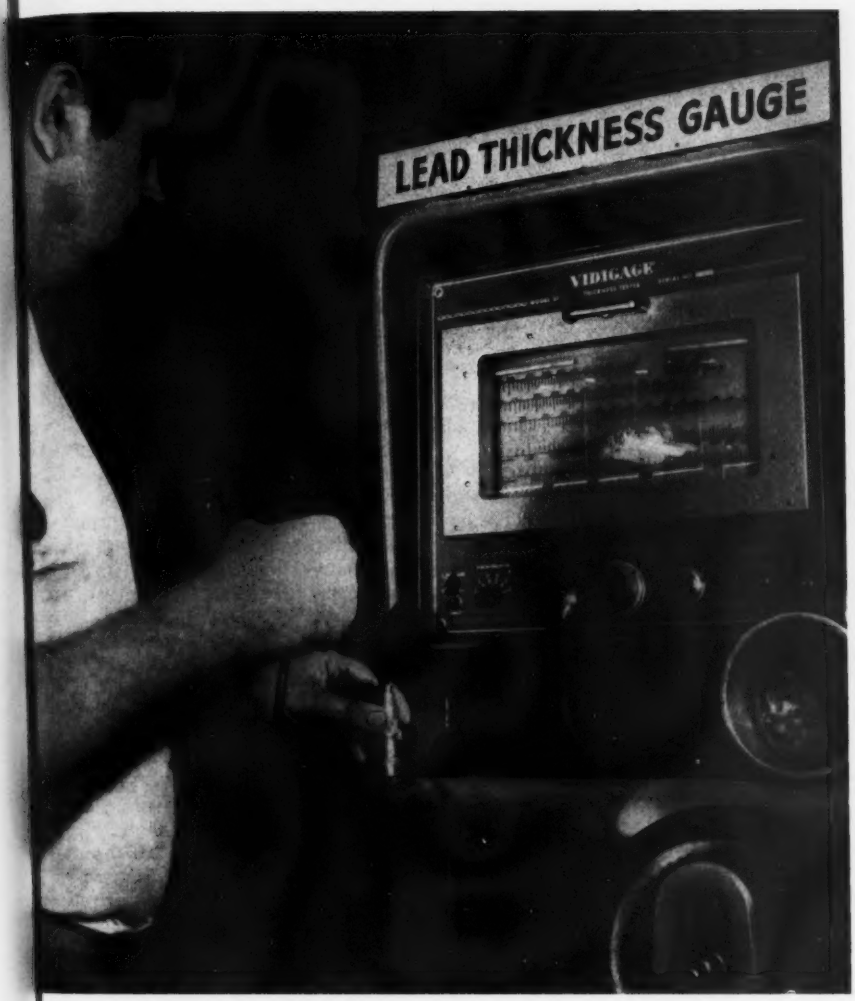
We as business management—the trustees of the mightiest force for human advancement that ever existed—dare not do less during the crucial Sixties. We must create the spirit and determination to retain and expand that force.

With a firm trust in the guidance and protection of the same Divine Providence, accompanied by our best efforts to symbolize our noble goal, we can rally support to defeat the enemies of freedom. We can create a more ideal climate for the upward lift of men everywhere. Any less than our dedicated efforts will only lead to the painful security of slavery by some form of state tyranny.

Just-released photo shows technician using ultrasonic resonance gage on stainless steel nose cone of Explorer satellite. Vidigage is used for final testing of nose cone's wall thickness.

Ultrasonic Energy—Supe

Ultrasonic gage is measuring thickness of aircraft wing from one side while milling operation is in progress on a giant tracer-controlled machine at Grumman Aircraft Engineering Corp.



gage checks thickness of lead sheath being extruded over power cable at Okonite Company, son, New Jersey, without damaging it, and without having to stop the extruder.

pervant of Industry

■ ULTRASONIC energy — sound pitched so high that the human ear cannot detect it—used to have only one practical application: calling Rover home without disturbing the neighbors. Today, however, silent sound has become a major industrial tool. To Branson Instruments, Inc., (Stamford) must go much of the credit for the ever-increasing use of ultrasonic equipment to perform a wide range of jobs.

Branson generators use ultrasonic energy to scrub dirt-encrusted machine parts, large or small, no matter how complex. Other ultrasonic devices measure thickness of a casting, test the soundness of a brazed or welded joint, inspect corrosion damage in ship hulls, or check uniformity of missile nose cones. The range of industries in which ultrasonic energy is used reads like a business directory—from Aircraft and Atomic Science through Watchmaking and Welding—and inaudible sound is performing these tasks faster and better than older, more conventional methods.

Background of the Founders

Norman G. Branson and Peter K. Bloch head Branson Instruments, Inc., and its wholly owned subsidiary, Branson Ultrasonic Corp. The two founders pioneered in turning what was considered merely a laboratory curiosity into one of the fastest-growing businesses in Connecticut.

Kansas-born Norman Branson first became interested in ultrasonics when he read about a thickness gage developed by General Motors Research Laboratory. A young electrical engineering graduate of Kansas State College with 6 years of practical experience in designing electronic equipment and instruments, he became so intrigued by the commercial possibilities of ultrasonic gaging that he resolved to strike out on his own.

In 1946, Mr. Branson met Peter K. Bloch. Born in Munich, Germany, Mr. Bloch had come to the United States in 1937, studying in the evening session of CCNY. After a stint in the U.S. Armed Forces, he completed his studies at Columbia University, receiving a bachelor's degree in chemistry.

Branson Instruments, Inc. started modestly indeed in 1946, in two rooms of an old frame house, and a staff consisting solely of Mr. Branson, on the technical end, with Mr. Bloch handling all correspondence on week-ends. Soon, however, the growing business demanded all of Mr. Bloch's time, and the Branson concern was on its way towards becoming one of the leading developers and manufacturers of ultrasonic equipment.

The Branson plant is located at 40 Brown House Road, Stamford. The main building was occupied in February 1957, and the new addition (right) was completed in 1959.

Technicians and engineers at Branson's generator laboratory check each Sonogen ultrasonic generator before crating and shipping. Peter K. Bloch, right foreground, company president, discusses selection of solvent for special cleaning problem.

Growth of an Idea

Sales went up and up, increasing by almost 50 per cent for each year of operation. In February 1957, little more than 10 years after its founding, the company moved from its old plants on Fairfield Avenue and Richmond Hill Ave. to spacious new quarters at 40 Brown House Road, Stamford. Barely two years later, the company expanded again, building a 12,000 sq. ft. addition to the 24,000 sq. ft. main structure. This modern plant now houses laboratories for research and development, and a fully equipped machine shop, as well as executive offices and manufacturing facilities.

The original staff of two has grown to 110, including development and production engineers and other highly skilled technical personnel. The company has enjoyed excellent labor relations, and regards the loyalty, experience, and ability of its employees as one of its most important assets.

Mr. Bloch serves as president and treasurer, and Mr. Branson as vice-president and secretary of the original company, Branson Instruments, Inc. A subsidiary company, Branson Ultrasonic Corporation, was formed in 1952 and is headed by Mr. Branson as president with Mr. Bloch as vice-president. Both are directors of the combined companies, as is Daniel Miller. Just recently (August, 1959) the company's stock was offered publicly for the first time, and was oversubscribed as soon as word of its issue came out.

Three major industrial applications of ultrasonic energy are represented by the Branson line: "Audigage* and Vidigage* thickness gages; Sonoray flaw detectors, and Sonogen** ultrasonic cleaning equipment. In addition, Branson markets parts and accessories for these products.

* Registered Trade Mark, Branson Instruments, Inc.
** Registered Trade Mark, Branson Ultrasonic Corp.

Ultrasonic Gages

Ultrasonic resonance gages measure thickness of a material by determining its resonant frequency of vibration, which is inversely proportional to its thickness. The basic element used in these instruments is a transducer, a slice of a quartz crystal which converts electrical energy into mechanical vibrations. When the probe is placed against the material being tested and excited by an electronic sweep oscillator, continuously varying ultrasonic vibrations are transmitted into the sample. At certain frequencies, characteristic of the type and thickness of material, harmonic resonances are set up which can be indicated by an audible signal in a set of headphones or by vertical traces on a cathode-ray tube.

Because these instruments can measure thickness even when only one side is accessible, they are invaluable in industries where large pressure vessels must be checked periodically for corrosion. Refineries, chemical plants, shipyards, or pulp mills find them invaluable, particularly because ultrasonic resonance gages do not mark or deface the metal under test in any way.

The first ultrasonic instrument produced by Branson was the Audigage, a portable, battery-operated resonance gage, which was capable of thickness measurements from 0.020 to 12 in. The user merely passes a probe over the testing area, and listens to the audible hum produced in his headphones. Change of pitch indicates change of thickness, such as caused by corrosion damage, scale buildup, or internal flaws.

A special adaptation of this instrument is used for testing steel rails. The operator can detect even hair line cracks hidden under ties, merely by

Matched transducers that convert electrical impulses from the Sonogen generator into mechanical vibrations for fast, complete, untrasonic cleaning, are carefully assembled in this section of the Branson plant.

listening for changes from the high-pitched tone characteristic of a sound rail. This safety device, used on many railroad systems, has undoubtedly saved countless lives by detecting trouble spots and averting potential disaster.

The newest of these instruments is the Model 6 Audigage, the smallest, lightest ultrasonic gage ever built. Completely self-contained, it is easily carried aboard ship for field inspection of hulls and tanks, along the length of pipelines, or wherever corrosion is suspected. Thousands of dollars in downtime have been saved by companies who use this ultrasonic gage to locate corroded areas before they cause an actual breakdown.

Another ultrasonic tester, the Vidigage, was introduced by Branson in 1953. It improved upon previous instruments by indicating its measurements visually on a cathode ray tube. A calibrated scale placed over the face of the tube enables the user to read thickness directly, from 0.004 to 3 in., and with an accuracy of ± 0.1 per cent.

Automatic converters can be used with the Vidigage in metal-forming operations to stop a machine, sound an alarm, or activate some other warning device when a predetermined size has been reached. For example, when machining a complex-shaped airplane wing, the gage-converter combination can automatically signal the operator when skin thickness is correct, thus eliminating the need for removing the part, gaging it manually, and repositioning it. Similarly, the device can stop steel rolling mills if the sheet being processed is either over or under specifications. Furthermore, an automatic recorder, used in conjunction with the gage-converter, can produce a strip chart of thickness measurements as a permanent record.

A few case histories best illustrate the wide range of use this instrument enjoys.

In one power plant, 600 boiler tubes had to be checked, with readings taken every 6 in. Total readings: 35,000—every one of which was correct. Eleven tubes, which looked sound, but were corroded to the point of danger, were located and replaced.

A 230-ft tall lift pipe is checked annually for corrosion by a two-man team, one of whom carries the probe up the pipe, while the other monitors from the ground. The only alternative testing method for such large structures involves drilling many test holes, measuring them, then welding them shut. On the other hand, with ultrasonic gaging, tanks and boilers do not even have to be empty while being measured.

The Vidigage was also used to check dimensions of the stainless steel Explorer nose cone. Because of the cone's varying wall thickness, gaging with calipers would have been extremely difficult, but ultrasonic energy accomplished this job in just a few minutes. Nose cones for Nike-Hercules were similarly production-checked.

Industrial "clean room" at Superior Valve Fittings Co., Pittsburgh, Pa., uses Sonogen ultrasonic cleaning equipment to process missile system parts. To ensure microscopic cleanliness, air is filtered to remove dust, and operators wear lint-free clothing and rubber overshoes and gloves.

Using Sonogen ultrasonic cleaning equipment, six girls at Allied Control Co., Plantsville, clean separate parts as well as completed precision relays. Ultrasonic cleaning has eliminated rejects almost completely.

Flaw Detectors

In addition to gaging thickness, the Vidigage can be used to detect flaws in metals or plastics. In this case, any fault or discontinuity in the material shows up as a variation in the trace on the cathode ray tube. Lack of bond in clad or brazed assemblies, laminar flaws in rolled sheet, or imperfect welds are quickly and accurately located by this device.

Recently introduced, the Sonoray

(Continued on page 34)

Chief Draftsman of Hamilton Standard's Electronics Dept., William Hollander, puts finishing touches on free-hand schematic drawing. Drawing is done on a ruled form especially designed for this new process.

KEYBOARD SCHEMATICS

At the Bond Press, operator Albin Norbut "types" out a schematic drawing on the Fotosetter by manipulating a keyboard. One stroke on the keyboard will position a symbol or sections of vertical and horizontal lines for automatic photographing at the rate of 480 per minute. The result, after developing in a darkroom, is a film positive.

■ INDUSTRY in Connecticut and in neighboring states now has at hand a process for making schematic drawings of electrical circuits by way of a photo typesetting technique which may be done in a fraction of the time required by manual drafting.

Basically the process is an adaptation of the photo-composition used in setting type on a film rather than in hot lead. This technique is several years old. Although the machine used resembles a conventional type-setting machine, its matrices are not hollow molds for forming lead type but instead contain a film negative on which is the image of a symbol for a piece of electrical equipment. When the operator punches the keyboard in the right sequence the product is a photo of a complete circuit diagram.

Originally developed by the Industry Control Department at General Electric's Roanoke, Va., plant in cooperation with technicians at the Intertype Co., a Brooklyn, N.Y., division of Harris-Intertype Corp., the process is now offered commercially by Bond Press, Inc. of Hartford.

Garth Jensen, vice president in charge of sales, reports that the Bond press is the first and presently the only commercial printing establishment in the country offering this unique service.

Working in close collaboration with Donald R. Millenson, mechanical

design and drafting supervisor of Hamilton Standard's Electronics Dept., technicians at Bond Press have successfully adapted the new process to Hamilton Standard's needs.

Besides being much faster and cheaper than manual drafting, according to Mr. Jensen, the process produces easy-to-read circuit diagrams on standard size 8½ x 11-inch sheets rather than on the 3 or 4-foot sheets frequently required for manual schematic drawings.

The Bond Press, Inc. was founded 60 years ago by J. Helmer Johnson, who possessed a prodigious capacity for work. Frequently his employees would arrive for work in the morning to find the boss asleep on a bindery table after working all night. Self taught and highly imaginative, he adapted manufacturing techniques to a craft industry.

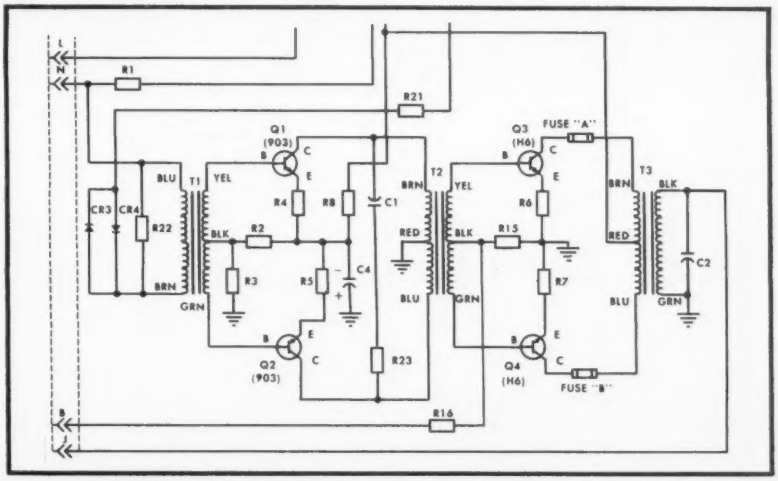
Before going to college his sons, Oswald and Oliver, spent many of their after school hours and summer vacations working in the shop. Both boys learned to perform every printing operation in the plant.

Upon Mr. Johnson's death in 1945 Oswald became president and Oliver vice president and treasurer. Building on the firm business foundation set by their father, they have expanded the operations of the company to include offset lithography. Since 1945 production has increased twenty-fold. The company now offers a complete graphic arts service including letterpress and offset printing, typesetting, binding, electronic engraving Xerography, editorial services and a completely staffed art department. A pioneer in the field of photographic typesetting techniques, the company installed the first Fotosetter in New England in 1954.

The Johnson brothers have been active in the Connecticut and national graphic arts scene. In 1951 and 1952 Oswald Johnson was Chairman of the Graphic Arts Trade Association of Hartford, and from 1953 to 1955 he was a director of the Printing Industry of America. Oliver Johnson was instrumental in founding the Hartford Club of Printing House Craftsmen and has served as its President. In 1955 he was chosen "Outstanding New England Craftsman of the Year."

Film positive of the circuit shown above is composed first. This goes back to the Fotosetter so the operator can accurately compose all the information that goes on the diagram in text form.

John Dennis combines the circuit film positive and the film positive of the identifying data to form the complete schematic drawing.



From the combined film positives a contact negative is made. The negative image is finally contacted to transparent, tough film of high dimensional stability, from which blueprints can be made.

Donald Millenson, mechanical drafting and design supervisor of Hamilton Standard's Electronics Dept. and Bond Press President, Oswald H. Johnson compare completed keyboard schematic held by Bond Press Vice President Oliver F. Johnson with the same drawing executed in the conventional drafting method. The photo composed schematic measures 8½" x 11", the manual delineated drawing 22" x 34".

Stamford's newest landmark is this 150-foot-high tower and sign, part of the new wing of the Pitney-Bowes plant.

Pitney-Bowes Celebrates Expansion and Modernization

Editor's Note—Even though previous editorial commitments precluded the publication in an earlier issue of CONNECTICUT INDUSTRY an account of the events which took place at Pitney-Bowes, Inc. Stamford, last October 3 and 5, the old adage, "better late than never" prompts the publication of a word and picture story in this issue.

■ CELEBRATING the completion of an $8,500,000 expansion and modernization of its plant and national headquarters in Stamford, Pitney-Bowes, Inc. played host to over 2,000 employees, their relatives and invited friends at "family" open house on October 3, 1959, and welcomed over 4000 guests, including many distinguished government, business and community leaders at a "community" open house on October 5.

On both occasions visitors to the 40-year old postage meter and business machine company toured the new and completely renovated office, engineering and manufacturing facilities that now fill the ten acre block bounded by Atlantic, Walnut, Pacific and Crosby Streets in Stamford.

Starting in the main lobby where guests were welcomed by management and employee representatives, the open house tour led through the factory and engineering areas to Vonderleith Hall, where they viewed demonstrations of the complete Pitney-Bowes product line including a demonstration of the newest—the electronic check sorter-reader. From Vonderleith Hall the tour led visitors through the financial and administrative departments to a new fourth floor dining room and new executive offices, and finally back to the starting point in the main lobby.

The new construction program, begun in December 1956, added 260,000 square feet of floor space to the Pitney-Bowes plant and offices, in a one to three story extension at the western end of the block, while the remodeling work covered all of the 450,000 square feet in the existing buildings. The new space made possible an expansion of office and plant operations as well as of research and development programs, and the consolidation of manufacturing and storage formerly scattered in several locations.

New Features and Improvements

Among the many new features noticeable to the observing guest was that all buildings had been completely air conditioned. Because of the spread of the buildings, a unit system utilizing more than 100 units ranging from 5 to 100 tons each was utilized, instead of the central system. Also apparent to guests were the wide variety of solid colors used to give not only a decorative touch to the offices but also to designate factory areas and operations, such as controls or moving parts on machines and different kinds of assembly lines.

A remarkable part of the expansion is a new finishing building which centralizes all plating, polishing, painting, heat-treating and powder metal operations in what factory experts have described as "one of the finest plants of its kind in the East." This building is completely waterproofed to a depth of nine feet above the ground, because of the flood danger from Long Island Sound, two blocks away. Bulkhead doors complete the waterproofing, in a building which actually "floats" on a 4-foot-thick bed of concrete.

General improvements include the installation of three new automatic elevators; a new heating plant, tripled power capacity, asphalt tile floors, renovated and expanded cafeteria, dining and meeting areas, and uniform lighting said to meet the most modern design specifications.

New engineering facilities are three times their former size. Included in the laboratory and technical equipment are provisions for duplicating all variations of electric current, and "hot" and "cold" rooms which can simulate any desired atmospheric condition.

In the process of relocating production tools and assembly lines in the expanded factory space, all machinery has been replaced or reconditioned, and an east-west flow from raw materials to finished products and loading platform has replaced the former circular system.

Company Data

Starting in 1920 to manufacture

This 34-box mail sorter is now undergoing daily test runs.

Part of the modern, new Finishing Building is this heat-treating room, which has new machines, quiet operations, and plenty of elbow room.

The sorter-reader, developed cooperatively by Pitney-Bowes and the National Cash Register Co., sorts checks and other documents at the rate of 750 per minute.

Assembly lines at the new Pitney-Bowes plant are color coded to facilitate the distribution of parts and sub-assemblies. Here, electric postage meter machines near completion.

the first postage meter models in a small wooden building at the corner of Walnut and Pacific Streets in Stamford, the growth of the company until after World War II was steady but undramatic. Following the war a brand new product line, plus expansion into the field of office machines, called for additional buildings which, with the latest expansion, brings the total of floor space occupied to 700,000 square feet.

Although best known for its metered mail system which it originated, today Pitney-Bowes is marketing business machines that can, *in one minute,* stuff 100 envelopes, sign 150 checks, fold 300 sheets, open 500 letters, sort 750 checks, or count and imprint 1,000 paper items. For the Post Office, other Pitney-Bowes machines will, *in one minute,* "face" and cancel 500 adhesive-

(Continued on page 35)

The new lobby and display room are typical of the modern design used by Pitney-Bowes in its renovation program. The white tile postmarks on the world map (background) represent the dozens of nations now using the metered mail system.

Preparing For Renegotiation

By ALAN A. SLADE

ALAN A. SLADE

Editor's Note—The author of this article, now retired from government work, is highly qualified by education and experience to outline to manufacturers subject to renegotiation the best preparatory procedures for such renegotiation and to pin-point some of the costly errors to avoid.

A Brown University graduate in engineering, who subsequently completed a course in higher accounting, Mr. Slade has served industry for some 18 years in such official capacities as plant manager, treasurer, controller, general manager and president, and for some 13 years as a designer and installer of accounting, cost and production control systems for industry including complete handling of Termination Claims. His government experience encompasses three years (1942-45) in charge of Purchase Inspection, Air Material Command, Eastern District, and six recent years in charge of the accounting phase of some 200 renegotiation cases for the New York Regional Renegotiation Board.

A former contributor of articles on certain aspects of plant management which were published in the March, 1947 and October 1949 issues of CONNECTICUT INDUSTRY, Mr. Slade, now a resident of Wilton, still continues to do some public accounting work and consultation in the areas of his experience.

■ SINCE renegotiation is to continue for several years manufacturers having defense business might well take a hard look at their preparations for reporting their next fiscal year and justifying their profits thereon. This has not always been well done in the past, possibly to the detriment of the contractor.

Examination of submissions has resulted in revision downward as well as upward in the amounts of renegotiable sales and profits; in some cases finding reasonable profits which initially appeared excessive. Possibly damaging deficiencies in all major areas of preparation—segregation of sales, allocation of costs and expenses, and treatment of the discretionary statutory factors—appear on close scrutiny of the facts as presented.

The purpose here is to emphasize the benefit to all concerned of sound, complete initial preparation of the material to be embodied in the renegotiation report and the clear, logical and convincing presentation of the material in the report itself.

Segregation

The regulations implementing the 1951 Act have spelled out in considerable detail the types of contracts that are wholly or partially subject to renegotiation and those that are wholly exempt. They place upon the contractor the obligation to identify and report all renegotiable sales.

The indices of renegotiability in many contracts are clear and the end use of many products make a determination easy. But where this is not so it is worthwhile to run down such items with the Board people who are quite objective in the matter. Their decisions have been salutary for contractors at times. In one instance some special productive equipment which had been sold direct to government was considered non-convertable to commercial use and reported as wholly subject. Further investigation disclosed that it had been converted and was entitled to be only fractionally renegotiable under the Bureau of Internal Revenue's Bulletin F formula.

In cases where segregation presents administrative difficulty and dependence must be placed upon customers' estimates, as largely necessary in bearing manufacture, the job should be done as early and completely as possible. It would be most inconvenient and the results dubious if it became necessary several years later again to contact all customers for the same purpose.

Having thoroughly performed segregation of renegotiable sales it is then important, in the report, to explain the procedures to the complete satisfaction of the Board.

Allocation of Costs and Expenses

For the present purpose it is assumed that the basic requirement of reporting, for the business as a whole the same total and net income as shown in the Federal Income Tax Return or satisfactorily reconciling thereto, has been met. Consideration can then be limited to the adequacy of method used to allocate the proper shares of manufacturing cost, selling, general and administrative expenses and other items to renegotiable business.

Use of Sales Ratio as a Basis

To distribute all costs and expenses between renegotiable and other business in the exact proportion of the sales of each is to assume that every dollar of sales incurred these costs and expenses in the same amount as every other dollar of sales. This clearly never happens in real life. Therefore use of this method can only be justified when no more exact procedure is possible or at least administratively feasible for the purpose.

Renegotiation teams have more than once "rescued" contractors who have placed their profits in jeopardy by taking the short-cut of sales ratio in reporting for renegotiation when that was not necessary. In one case in the writer's experience, a contractor, on being required to dig into his good job cost records, discovered that the bulk of his profits for the year was earned on an export order, which was exempt. In another case a re-examination ascertained that a low profit production order for machined castings, which accounted for most of contractor's renegotiable business, had been reported as having earned the same rate of profit as customarily earned and allowed on the tool-making portion of the business. In each of the foregoing examples clearance was given after the proper

distribution of profit had been made.

The lesson here is clear. The extra cost in getting the facts was negligible by comparison with the refunds that would otherwise have been requested of these contractors.

Special Costs and Expenses in Renegotiable Business

Because of the different nature of military hardware items and the processing thereof compared with normal factory output, defense contracts tend to monopolize the time and attention of the plant's mechanical and supervisory administrations. Unusual elements of cost and expense are incurred. When these contracts are taken at fixed price, only, there is a tendency to overlook many of these items in the current accounting, forgetting that they must be separately identified and segregated if they are to be given effect in renegotiation just as they are given effect for income tax as part of the whole cost of doing business.

The practice of making direct charges to the cost of performing renegotiable business is admissable, provided they are fully documented and that they are not simply individual items taken out of a class of costs or expenses that is allocated by formula to both renegotiable and normal commercial business. That would result in a duplication of the charge. The principle is sound because the use of it reduces to some extent the volume of cost that must be allocated by some approximating method.

Troubles with Price Redeterminable Contracts

The provisions in a contract for price redetermination, upward or downward, tend to give comfortable assurance of a modest but acceptable profit that is in no danger from renegotiation. But when deliveries span several years and there are numerous such contracts in work, serious problems may arise in connection with the costing of shipments from year to year, because of the possible accumulation of excessive profit in some one year due to the over-absorbtion of costs in prior years.

Some contractors try to avoid such developments by maintaining, through frequent study of cost trends and periodic adjustment of cost-to-date and sales-to-date, the original or come-in rate of profit which was found acceptable by the purchasing agency. In theory this seems ideal. Actually there can be trouble ahead.

Costs, i.e. unit product costs, decline with added experience. Redetermination of a considerable volume of contracts in a single year may disclose overcosting in prior periods and require substantial downward adjustments of both cost and related sales. For renegotiation the cost reduction must be reflected in the year ascertained but the reduction in income must be applied retroactively on shipments from the first of each contract. Such disproportionate change of income and expense develops abnormal profit, a matter of concern to all.

There are ways to avoid such a situation, each requiring that the possibility be anticipated. Cooperation of the Board is possible to obtain.

The Statutory Factors

When a contractor's submission is forwarded to a Regional Board there is usually the inference that the reasonableness of the profit it discloses will require substantiation. The accounting member of the renegotiation team is concerned with the accuracy in determining the amount of profit. The renegotiator's interest lies in the way the profit was earned—the circumstances under which the contractor worked and the special problems and achievements as comprehended by the six Statutory Factors. These have been described at some length in sections 1460.9 to 1460.14 of the Regulations. For present purposes they are summarized as follows.

Just how complex is the product and how difficult the processes of its manufacture? What part of all essential work has been performed under the contractors' own roof?

Under this caption the concept of "added value" seems paramount. By this is meant the addition to cost represented by the contractor's own direct labor and overhead. It is considered that the more of one's own labor spent in converting material into parts and assemblies of the product the greater is the added value to receive consideration. It is a reasonable conclusion in many cases.

But there is one type of manufacturer that, in this writer's opinion, fails to receive full credit for its achievements under this caption. It is the one that has developed a formidable force of engineers and come up with an item of great value to defense, consisting chiefly of an assembly of elements that are the end products of other industries put together with a minimum use of his own labor. Here the tendency is to measure "added value" in the usual terms of shop productive labor rather than consider the constructive engineering effort as productive in a most significant way and the chief contributor of added value.

Risk. The kinds of risks to be considered, according to the regulations, are largely those involved in the giving of various guarantees including fixed price in the contracts. This is proper because the contractor was presumably aware of the possible consequences and willingly accepted them along with the business. Precisely what might have happened to his normal market, his sales organization, employe pay scales, prior purchase committments, or other areas of his business because he undertook defense work? What did happen to them? What would a sudden termination at government convenience do to him?

There are also intangible risks in government work. The evolutionary character of military hardware, changes in design, specification, obsoleting of whole systems—events that disrupt management of a business—these involve engineers, managers, tool makers, field representatives and others in ways it is difficult to measure and price.

But a curious problem exists in considering the Risk factor in that the contractor must have earned a substantial profit in spite of such risks as appear, otherwise he would not be up for consideration. Therefore the genuineness of the risks comes into question and requires examination—a real problem for both contractor and renegotiator.

Capital Employed. The principal problem in developing this factor is in arriving at a realistic estimate of the portions of capital and net worth employed in renegotiable business. If the contractor can work out a rational basis for accomplishing this he should do so. Lacking deflnite figures the Board specifies allocation in proportion to cost of goods sold. This may or may not be equitable in a given case.

Earning profits by use of customers' money or other resources discounts a contractor's achievements.

The June, 1958 printing of the regulations includes recognition of the possible merits in contractors' objection to basing percentage of return on investment upon the figures of a year's opening Balance Sheet.

Whether any given percentage of return on net worth is excessive is arguable in view of the different ways manufacturers go about producing their goods and the great difference in requirements for capital among various industries.

Contribution to the Defense Effort. This is a thing of absolutes rather than comparatives. The regulations state clearly and simply the kind of attitude and performance that merit extra consideration. Attitude has special significance. Selfless sharing of knowledge, patent rights, skilled personnel, merit recognition.

Government Agencies are better able to evaluate this factor than con-

(Continued on page 38)

How Your Income Taxes Can Be Cut

By Rep. WILBUR D. MILLS, Chairman
House Ways and Means Committee

HON. WILBUR D. MILLS

In the unpretentious office of Rep. Wilbur D. Mills on Capitol Hill is a bright yellow sign facing his desk which says "RELAX."

The precaution seems unnecessary. Mr. Mills appears perpetually at ease and unharassed, despite the obvious pressures of his job as Chairman of the House Ways and Means Committee. His Committee writes all the federal tax laws.

Rep. Mills' confident manner is fitting, considering his experience. He probably is better qualified to head the Ways and Means unit than any predecessor in recent times.

A graduate of Harvard Law School and a former Arkansas judge, the 50-year-old legislator has absorbed a vast amount of fiscal know-how during the 17 years he has been a member of the Ways and Means Committee. He has a reputation for knowing his way through the tangles of federal tax law as does no other member of Congress.

Mr. Mills was preaching tax reform before he became chairman of the Committee in January, 1958. He knows real tax reform is an idealistic goal that can't be reached quickly. But the hearings now getting under way are the first phase of what may be a complete overhaul of our federal tax system.

■ REFORM of the federal income tax system is the goal of a monumental study which the House Committee on Ways and Means began in November in Washington.

A major purpose of the study is to provide the conditions necessary for reduction in tax rates without sacrificing revenues required for responsible, noninflationary financing of government.

At the same time we seek:

1. A tax climate more favorable to economic growth.

2. An income tax under which the fundamental maxim that people with the same income should pay the same tax will be more fully observed in practice.

3. An income tax which interferes as little as possible with the operation of the market in deciding how our national resources—human and material—can best be employed.

4. Assurance that tax burdens will be as fair as possible.

5. An income tax which will respond promptly and vigorously to changes in economic conditions in order to restrain both inflation and recession.

6. An income tax law with which taxpayers can readily and inexpensively comply and which can be efficiently and fairly enforced.

The hearings we have planned may be the most searching ever held on constructive tax reform. More than 170 witnesses, each an expert on one or more aspects of the federal revenue system, will testify. Their testimony will cover virtually every important provision of income tax law.

On the basis of this study, the Committee will be able to draft specific legislative proposals. Full public hearings on these proposals will give all interested persons and groups a chance to be heard.

At this stage in its study, the Committee will concentrate on the income tax. This tax, both individual and corporate, is the mainstay of our federal revenue system. In recent years it has produced more than 75 per cent of the federal government's total net budget receipts. It is obvious, therefore, that if the tax system is to be made fairer and more conducive to economic growth, reform must begin here.

The key to income tax reform is broadening of the tax base. The Committee's study will focus on those provisions which serve to remove large amounts of income from the tax base. The Committee will seek to determine why each provision originally came into being, what effect it now has, and whether it should be retained when examined in the light of the objectives.

Few taxpayers, unfortunately, realize how serious the challenge of constructive tax reform really is. Until this realization becomes widespread, the type of tax changes upon which the nation's future fiscal well-being depends will not be undertaken. The reason is simple. Impressive as are the gains to be achieved from this reform, they cannot be had for free.

Almost every income taxpayer enjoys some special privilege under present law. While relatively small for most of us, these tax favors are great indeed for some taxpayers. In the aggregate, they add up to a substantial amount of income on which tax legally need not be paid. For most of us, therefore, the tax privileges we will have to forego will be small and the gains large. For a relatively few taxpayers, the reverse will be true. These changes will not be made, however, until enough congressmen and senators have been instructed by enough of their constituents to go ahead with the job of constructive tax reform.

How serious is the problem? Let's look at the individual income tax to get some notion of the dimensions involved:

In 1957, individuals in the United States received total income of $350.6 billion. On this income, federal income taxes of $34.4 billion were paid. These are the latest comparable official figures.

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The federal income tax took less than one tenth of our personal incomes in 1957.

Something seems to be wrong with this arithmetic. The lowest rate in the federal income tax on individuals is 20 per cent and these tax rates go all the way up to 91 per cent. How could we pay less than 10 per cent of our income in tax, when the lowest rate is 20 per cent? The answer, of course, is that more than half of our income is never taken into account for federal income tax purposes. Of our total personal incomes of $350.6 billion, only $149.4 billion, or 43 per cent, was actually taxable.

Whv wasn't the remaining $208.2 billion taxed? About $42 billion consists of various kinds of income which by statute, regulation, or court decision have been excluded from income for federal income tax purposes.

Another $28 billion represents income received by individuals who, under present filing requirements need not file income tax returns and income which should have been but was not reported.

An additional $18 billion is income reported on returns on which no tax liability accrued, because of personal exemptions, deductions, tax credits and other reasons.

Personal exemptions on taxable returns account for another $77 billion on which no tax was imposed.

Deduction of personal expenses, including the standard deduction, removed an additional $36 billion of income from tax, bringing us to our taxable income of $149 billion.

Not all of this income, however, bore the full brunt of the income tax; tax credits reduced tax liabilities by about $500 million, and income-splitting on joint tax returns accounted for about another $4 billion of taxes which weren't paid.

I do not suggest that all of the income which escaped tax should be included on taxable incomes. No one seriously urges doing away with the personal exemption, for example. But surely we must study carefully all of the provisions which remove such large amounts of income from tax if we are to be sure that we have the most efficient and fairest possible tax with the lowest possible rates.

We can think of our income tax as a triangle, the area of which is the revenue collected. The base of the triangle is taxable income and the height of the triangle is the rate schedule. We can get the same area from a narrow base and high rate schedule or a broad base and low rate schedule.

What difference does it make whether we pay a 20 per cent tax on half of our income or a 10 per cent tax on all of it? It would make no difference if all taxpayers had the same treatment. If the tax law, in effect, said to every taxpayer, "Take half of your total income and apply the rates in the rate schedule to that amount," there would be little reason, apart from arithmetical simplicity, to prefer a tax law which required the application of rates half as high to the full amount of every taxpayer's income. But this is not the case.

The tax law is crammed with provisions which instruct you to determine your tax not only on the basis of the amount but also on the basis of the source and the disposition of your income.

Specific examples of these tax differentials can be cited seemingly without end. The law provides, for instance, that all interest you receive on corporate and federal government bonds must be included for tax purposes. It excludes from your gross income interest received on state and local government debt issues and the interest which accrues on your behalf on your insurance policy.

The law directs you to treat as income fully subject to ordinary income tax the gains you realize on the sale or exchange of certain types of assets. Gains realized on certain other types of assets are treated the same way if you've held them for six months or less. But if you hold the asset one more day before selling or exchanging it, it suddenly becomes a different asset altogether. The law then instructs you to deduct 50 per cent of the gain from your income and, in any case, to pay a tax of not more than 25 per cent of the full gain, regardless of what rate you must pay on your other income.

In some cases the law proclaims that you've realized a capital gain even when you've not engaged in a sale or exchange and no capital asset is involved.

You may be a creative person whose livelihood is derived from the sale of copyrights you create. Such gains are ordinary income. Should you direct the same talents and energies into producing a patent, however, the money you get from its sale is a capital gain.

Have you invested in a depreciable asset to aid in producing your income? If so, you may charge off its cost against your income, on the basis of one or more methods, but only over the estimated useful life of the asset. Moreover, these depreciation charges are limited to the amount of your investment in the asset.

Or did you, instead, invest an equal amount in developing an oil well? You may charge off all but a small fraction of its cost against your income in the year in which you made the expenditure. Moreover, you may continue to charge off its cost at the rate of 27.5 per cent of the gross income you get from the oil well, but not more than 50 per cent of the net income therefrom, for as long as it continues to produce, even if you have long since recovered your full investment.

Do you work for a salary? If so, your employer makes a contributon on your behalf to the Old Age and Survivor's Insurance Trust Fund maintained by the federal government to provide you an annuity upon your retirement. You needn't include that contribution in your income; nor do you include the annuity in your income when eventually you receive it. Chances are, your employer has also contributed to a private pension or other retirement plan on your behalf. You pay no tax on this portion of your income. When you retire, if the retirement plan gives you your accumulate benefits in a lump sum, they are regarded as a capital gain, on which you pay no more than 25 per cent.

If you work for yourself, however, any similar reservation of your current income for retirement purposes is subject to ordinary income tax treatment.

At the close of your taxable year, will you be less than 65 years old? If so, $600 of your income is tax free. Your taxpaying requirement on the same income, however, falls dramatically on your sixty-fifth birthday. Then you may exempt $1,200 of that income from tax.

Such distinctions are bewildering. As you add them up, it becomes increasingly difficult to see how they can, taken together, serve a useful or constructive purpose. Indeed, their main effect seems to be to create a large number of separate income taxes tailored to economically insignificant differences in the situations of various taxpayers.

As a result, taxpayers in identical circumstances from any economically significant point of view and with identical incomes often pay vastly different amounts of income tax. Just as bad, taxpayers with vastly different incomes often pay identical amounts of tax.

When these disparities become large enough, we tend to base our business and personal financial decisions on tax considerations rather than sound business judgments. Tax advantages make it profitable for us to ignore the signals of the market place as to the best use to make of the means at

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News Forum

This department includes a digest of news and comment about Connecticut industry of interest to management and others desiring to follow industrial news and trends.

♦ FREDRICK H. WATERHOUSE, counsel for MAC since July 1, 1944, was appointed executive vice president at a special meeting of the Board of Directors on December 28. He succeeds Norris W. Ford who retired December 31 after serving in that post since February, 1945, and as traffic manager from October, 1929 to March, 1945. Mr. Waterhouse assumed his new duties as the chief administrative officer of the Association on January 1, 1960.

Born in Bristol, where he received his elementary and secondary education, he went on to Boston University Law School, from which he was graduated in 1924 with an LL.B Degree. Later that year he was admitted to the Connecticut Bar and began his general law practice in Hartford in association with the late Josiah H. Peck, also a native of Bristol. Although continuing his law practice until he joined the Administrative Staff of the Association in 1944, he served as chief rent attorney for the Hartford-New Britain Area from 1942 until July 1944, when he assumed his new post at MAC.

Shortly after joining the Association, Mr. Waterhouse was appointed to the Governor's Advisory Committee on Unemployment Compensation, a post he still holds. He has been in charge of the Association legislative

FREDRICK H. WATERHOUSE

program which involved not only the preparation of informational bulletins to keep members advised of proposed legislation affecting them and its progress through the Legislature, but also acted as industry's spokesman during all sessions of the General Assembly. In addition to his legislative activities, which included the preparation of a final report after each session of the General Assembly and the revision of MAC's booklet, "Manufacturers Obligations Under Connecticut Law," he was responsible for the Association's Industrial Relations activities, including counseling on industrial law, other legal matters of concern to industry, and acting as secretary to the Industrial Relations Committee.

Mr. Waterhouse also served as a member of the Workmen's Compensation and Unemployment Compensation Committees of the National Industrial Council, an organization composed of the administrative heads of the 38 state manufacturers associations.

He is a member of the Bristol, Hartford County, Connecticut and American Bar Associations, member of the Bristol Fish and Game Association, Country Club of Farmington and the Westminster Presbyterian Church of West Hartford. He and his family live at 40 Ridgewood Road, West Hartford.

♦ HENRY A. TRUSLOW, president and treasurer, Ponemah Mills, Taftville, was appointed a director of the Association at the December 10, 1959 meeting of the Board of Directors. Mr. Truslow replaces A. H. Payson, recently retired vice chairman of the board of American Thermos Products Company, Norwich, and will serve for the remainder of his term ending December 31, 1960.

A native of New Jersey, Mr. Truslow attended public schools in Summit, New Jersey, Franklin and Marshall Academy, Lancaster, Pennsylvania, and was graduated from New York Military Academy in 1932.

Following graduation he was employed by F. G. Shattuck, New York City. In December, 1933 he accepted a position with the Whitin Machine Works of Whitinsville, Massachusetts, where he worked in various depart-

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ments as a machine erector until September 1934 when he transferred to the company's Charlotte, N. C. plant, where he broadened his experience by working on repair jobs, handling payroll, job allocation and inventory.

In June 1935 he became associated with the Pepperell Manufacturing Co., Biddeford, Maine, where he worked in all departments until he was made assistant superintendent in 1939. He was advanced to superintendent in 1941 and served as assistant manager from 1944 until he was appointed manager of Ponemah Mills in Taftville, Conn. in October 1952. Two years later, in November 1954, he was elected president and treasurer of Ponemah.

Mr. Truslow is a director and past president of the Northern Textile Association, past president and director of the Norwich Manufacturers Association; a director of the Chelsea Savings Bank, a corporator and member of the executive board, Wm. W. Backus Hospital and an associate director, Connecticut Bank and Trust Co., all of Norwich. He is a member, past president and a governor of Acoaxet Club, Westport Harbor, Mass.; member and governor of the Commerce Club of Norwich; member, past vice president and governor, Southern New England Textile Club; member and past president, Textile Club of Boston; member of the Union League Club of New York and of the American Cotton Manufacturers Association.

♦ THE INAUGURATION of a program of prize awards this June at the state's 15 technical schools and institutes was approved by the Board of Directors of MAC at its December 10, 1959 meeting in Hartford.

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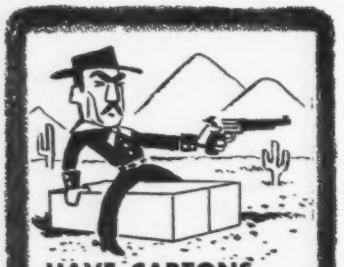

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To be called the MAC Industrial Education Prizes, an award of $50 will be made to the outstanding graduate in manufacturing skills at each of the 14 schools and the one institute now operated by the Division of Vocational Education of the State Department of Education. In addition to the cash awards, winners will receive a certificate of merit from MAC as a permanent memento of their achievement.

The prizes will be given annually by MAC, starting this year, and as new schools and institutes are added to the vocational education program they will be included in the awards project.

The winner of the prize at each school will be the young man who is considered outstanding in his educational accomplishment and in his overall record of citizenship and contributions to the school.

Fredrick H. Waterhouse, new executive vice president of MAC, said in announcing the awards that "we believe this program will help underline the importance to our young people of the state's industrial economy and will serve to spell out for them the advantages to be found in active participation in Connecticut industry."

The 14 technical schools now operating which will share in the MAC prize program are: Bullard-Havens Technical School, Bridgeport; Abbott Technical School, Danbury; Hartford Regional Technical School, Hartford; Cheney Technical School, Manchester; Wilcox Technical School, Meriden; Vinal Technical School, Middletown; Whitney Technical School, Hamden; Goodwin Technical School, New Britain; Norwich Regional Technical School, Norwich; Putnam Technical School, Putnam; Wright Technical School, Stamford; Wolcott Technical School, Torrington; Kaynor Technical School, Waterbury; Windham Regional Technical School, Willimantic; and the State Technical Institute, Hartford.

♦ BRUCE F. CLARK has been named senior vice president and treasurer of The Kaman Aircraft Corporation, Bloomfield.

Mr. Clark, who joined the helicopter manufacturer in 1951, has been successively assistant secretary, comptroller, treasurer, and vice president of the corporation.

In his new position Mr. Clark will have general responsibility for the company's financial, procurement and production operations.

♦ ROBERT H. SORENSEN has joined the Perkin-Elmer Corporation, Norwalk, as assistant to the executive vice president. In this newly-created position, he will be responsible for the area of corporate planning, including acquisition.

Before joining Perkin-Elmer, Mr. Sorensen was assistant to the vice president of engineering, Remington Rand Univac Division, Sperry Rand Corporation, South Norwalk.

♦ AN INFORMATION-PACKED four-page folder, Bulletin DH-260-R, describing the efficient, dependable and heavy-duty Campbell 406 Wet Abrasive Cutamatic has been released by the Allison-Campbell Division, American Chain & Cable Company, Inc., Bridgeport.

Designed to give long, trouble-free service under severe working conditions, the unit is an oscillating-wheel type of wet abrasive cutting machine with hydraulically operated work clamps and wheel feed. Hardened steel, high temperature-resistant alloys, corrosion-resistant steels and many of the new exotic metals up to 6" round or square can be cut at the rate of 4-8 seconds per square inch.

♦ JOHN FASANO and David B. Morgan, Jr. have been appointed vice presidents of the Heli-Coil Corporation, Danbury. The appointments were made by Eduard Baruch, president, following the recent stockholder approval of an acquisition of the Grip Nut Company of South Whitley,

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Indiana. Mr. Baruch's announcement was the first step toward realignment of corporate responsibilities in conjunction with the recent merger. Mr. Fasano, sales manager since 1956, started, with the Heli-Coil Corporation in 1951 as a sales consultant. He became merchandising manager for the Automotive Aftermarket Division and later advanced to the position of aftermarket sales manager in charge of industrial and automotive distribution.

Mr. Morgan, director of industrial and public relations has been with Heli-Coil Corporation since 1952. He became personnel manager in 1955 and was appointed director of industrial relations in 1956. Appointed assistant secretary of the Heli-Coil Corporation in 1957 he became a director of industrial and public relations in 1958.

♦ THE MODEL 3A Collet Actuator, a non-rotating air cylinder used to operate collets, step chucks, and expanding mandrels on lathes, grinders, and boring machines, has been announced by Powergrip, Inc., Rockfall.

The Collet Actuator provides uniform, controlled holding pressure when machining or grinding precision parts. A flow control valve prevents draw back of the work when the collet is closing. The hollow draw tube permits work, tools, or coolant to be passed through the spindle.

The actuator consists of a stationary aluminum air cylinder, connected through ball thrust bearings to the machine's spindle and draw tube.

♦ BEAVER riding tractors, manufactured by The Baird Machine Company, Stratford, have entered the Bolivian market in force with a shipment of three tractors to the Morcan Corporation of La Paz, Bolivia.

Walter Rose, Baird sales promotion manager, recently returned from Lima, Peru, where Beaver tractors were on display at the Pacific International Trade Fair. A great deal of interest among local trade circles was evident at the fair and several tentative orders were placed for the tractors, which perform a wide range of jobs including rotary mowing, rotary tilling, field mowing, lawn and park mowing, plowing, hauling and snow plowing.

♦ A NEW laboratory model of its Dynamaster Potentiometer Recorder is now being offered by The Bristol Company, Waterbury.

Basically, the instrument is the well-known wide-strip recording instrument especially adapted to laboratory requirements. The new multi-purpose recorder lends itself readily to measuring such variables as pressure, temperature, motion, flow, density, pH, and electric power.

♦ PLAX CORPORATION, Hartford, has announced that Smith Brothers, Inc., has adopted plastic containers for its famous Medicated Cough Concentrate. It is the first time plastic has been used in this packaging application. Plax engineers and designers worked with Smith Brothers to produce the final result.

Employing modern blow-molding techniques, Plax produced a distinctive and attractively-shaped container in rich red colored polyethylene. This plastics material not only has a soft, pleasant-to-handle texture, but also makes a container that is pliable, lightweight and durable, according to the manufacturer.

Another feature of the new "squeezable" plastic container is a long tip dispenser plug, which is said to control flow and permit easy measuring of prescribed dosage into a spoon. A threaded stock closure is used to seal the long-tip dispenser plug.

♦ HAMILTON STANDARD, division of United Aircraft Corporation, Windsor Locks, has completed negotiations leading to the purchase of a 50 per cent interest in Microtecnica, Inc., of Turin Italy, it has been an-

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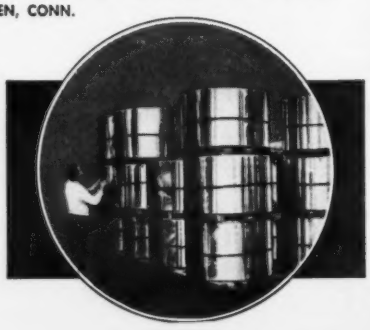

nounced by Charles M. Kearns, general manager of Hamilton Standard.

An agreement effecting the purchase was signed by Agostino D. Derossi, president and managing director of Microtecnica and Erle Martin, vice president of United Aircraft Corporation.

Mr. Kearns identified Microtecnica as "a vigorous and well-managed company, ideally suited to play a part in the expansion on a world-wide scale of the sale of Hamilton Standard's growing line of products."

Microtecnica has been in existence in Turin since 1928 and was founded by Mr. Derossi to manufacture electromechanical devices. Its main products today are marine and aviation navigation instruments, optical and mechanical testing instruments, servo-mechanisms and synchro-mechanisms.

♦ THE SPENCER TURBINE CO., Hartford, manufacturers of turbo-compressors, installed vacuum cleaning systems, heavy duty portable vacuum cleaners and pneumatic conveying systems, has announced the appointments of Robert W. Richardson as sales manager and David H. Hunt as chief engineer.

Mr. Richardson has been connected with Spencer since 1940, having served as assistant sales manager since 1957. He is a graduate of Colgate University and a member of the National Sales Executives Club.

Mr. Hunt joined the company in 1954 and was appointed assistant chief engineer in 1957. A graduate of Worcester Tech, he is a member of the American Society of Mechanical Engineers and a registered professional engineer.

♦ ANNOUNCEMENT of the promotion of Joseph L. Brindisi to assistant general sales manager of North & Judd Mfg. Company, New Britain, manufacturer of apparel and shoe trimmings, harness and saddlery hardware and general hardware, has been made by Philip W. Brown, general sales manager. George T. Post will succeed Mr. Brindisi as resident manager of the company's Buffalo office.

♦ A NEW LINE of wiring devices designed to resist corrosion, oils, greases, and most acids, has been announced by Harvey Hubbell, Inc., Bridgeport. Called the "Chem Marine" line and identified by their bright yellow color, these devices offer chemical, marine and other industrial users an extra measure of dependability under adverse service conditions. Wherever corrosion is a factor in industry, "Chem Marine" units will reduce the cost of maintenance and re-

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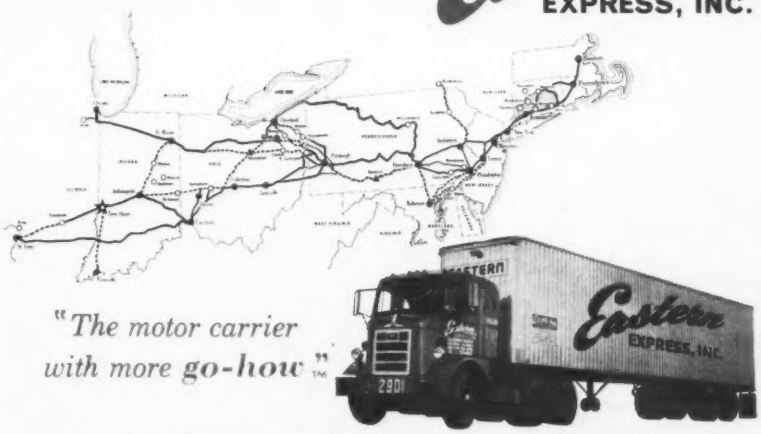

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placement and provide greater wiring security, according to the manufacturer.

The "Chem Marine" devices are similar to other Hubbell quality devices but are made from unusually rugged materials. In place of rubber and Bakelite, "Insulprene" and "Melamine" are used as insulating materials. Monel metal is used in place of standard steel; and heavy nickel-plated brass replaces unplated brass for current carrying contacts.

♦ A GRANT of $30,000 from Bristol Brass Foundation to the University of Hartford building program was announced recently by Joseph O'Brien, Foundation president and president of Bristol Brass Corporation.

The Bristol Brass Foundation is a non-profit corporation established in 1953. Purposes of the Foundation are "To receive and administer funds for scientific, educational, literary, religious, philanthropic and charitable purposes, all for the public welfare. . . ." A principal activity of the Foundation is its scholarship awards program begun in 1954 to assist deserving young Bristol people in obtaining a college education.

♦ A NEW wet blast unit, capable of operation from a "sitting-down" position has been announced by Pressure Blast Mfg. Co., Inc., Manchester. The Consol-Matic, as the unit has been designated, was specially designed for the high production rate finishing of small parts such as eyeglass frames, cuff links, sparkplugs and vacuum tube leads, operations usually handled by women.

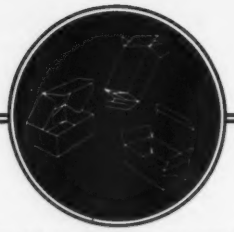
Two bays are provided at the operating station where work is loaded and unloaded. Moving blast guns, driven by air cylinders, are positioned at each bay. In operation, the operator places parts in either or both bays and depresses the foot lever. This begins movement and activation of the blast guns. A pre-set timer determines the length of blast time as well as the speed of gun oscillation.

♦ THE ELECTION of Howard C. Sweeney to the post of assistant comptroller has been announced by the board of directors of the Royal McBee Corporation.

Mr. Sweeney, who joined Royal McBee in 1931, directs federal, state and local tax administration for the entire corporation.

♦ THREE new rust preventive products have been announced by The Mitchell-Bradford Chemical Co., Milford.

Composition 15, a rust preventive



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liquid to be added to either hot or cold water rinses to prevent rusting of cast and malleable irons, sintered metals and steel during processing, is especially adapted to porous metals.

Composition DR is a rust preventive to be added to hot or cold water rinses to facilitate drying and add corrosion resistance to the steel surface. It is also designed to be used in tumbling barrel rinses to facilitate drying, eliminate staining and add corrosion resistance to the steel surfaces. Composition D. S. is available for power washers.

♦ J. WALLACE CROSS has been named personnel manager for National Semiconductor Corporation, Danbury, manufacturers of semiconductor devices in Danbury. Among his primary responsibilities will be the recruitment of technical, production, and office personnel to fill newly created positions resulting from the firm's expansion.

Formerly employed as personnel manager with the Aircraft Products Division of Manning, Maxwell and Moore, Inc., he has also been the personnel manager of Doman Helicopters, Inc. and wage and salary administrator at Kaman Aircraft Corp.

♦ EXPANSION of MB field service, with the opening of an additional office in Chicago, has been announced by George H. Mettler, president, MB Electronics. The company, a Division of Textron Electronics, Inc., now maintains fully staffed field service offices in Los Angeles and New York, in addition to the newly opened office in Chicago.

Mr. Mettler announced that Wayne Tustin has been appointed manager of field service and technical training for MB.

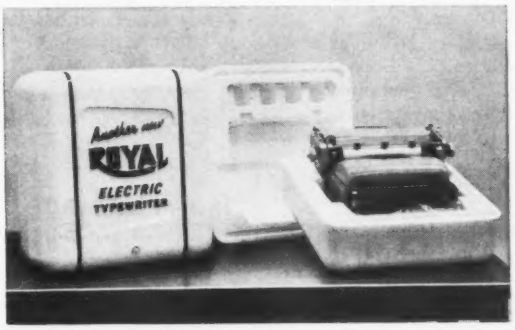
♦ THE EASTERN Steel and Metal Company of West Haven officially dedicated its new, major plant addition recently with an Open House celebration. The event was attended by more than 500 persons, including industrial executives, civic officials and representatives of the press, radio and TV from throughout the state.

The structure, which will be the center for shearing operations and materials handling, is 15,000 square feet. The entire Eastern Steel facility has now been enlarged to approximately 50,000 square feet.

The steel firm, founded in 1933, has developed into one of the larger strip and sheet steel and aluminum warehouses in southern New England. It is owned by four brothers, Louis, president, and Samuel, Paul and Robert Goodwin.

Visitors at the dedication were taken

1959's most Dramatic package



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on guided tours of the plant. Although there were many pieces of modern equipment on display, major interest was centered around a Rube Goldberg-type contraption—Eastern's slitting and oscillating machine. Developed and built by Eastern, this machine makes it possible for greater length and weight coils to be shipped on a single "spool." The manufacturer, therefore, saves production time because of the elimination of sub-processing steps.

♦ RADIANT-RAY Radiation, Inc., Newington, has announced the development of a new baseboard unit which, according to the manufacturer, answers the need in today's home heating market for truly modern, full-perimeter hydronic heating. The unit has been named "Radiant-Ray Hi-Lo Baseboard" to emphasize the fact that it has a high capacity yet is low in height.

The unit is 8 inches high and comes in 3, 4, 5, 6, and 8 foot lengths with a complete line of snap-on accessories and trim pieces.

♦ A PUSH BUTTON actuated, adjustable interval timer, which allows the user to select a desired interval and repetitively actuate this interval by merely pushing a button, is now available from Haydon Division of General Time Corp.

Known as Series AT-36, this unit, which the manufacturer describes as rugged and compact, is a totally enclosed, motor driven device designed for use in the control of fans, vending machines, mixers, photocopying equipment, and many other products requiring controls.

♦ THE APPOINTMENT of Lawrence P. Baker, to the position of sales manager of The Waterbury Pressed Metal Company, Waterbury, has been announced by Charles E. Fulkerson, president.

Mr. Baker has had approximately 13 years experience in the metal stamping industry, and was formerly sales manager of the Stanley Works, Pressed Metal Division, New Britain.

♦ "ASBESTOSITE," a new refractory material developed for use under extremely high temperature conditions, has been announced by Harco Laboratories, Inc., New Haven. The material is said to withstand continual exposure to temperatures in the 1000°F. to 3000°F. range and is also capable of being subjected to much higher temperatures during intermittent periods of time. The material is said to be easily fabricated in a wide variety of shapes and sizes and Harco plans on making it available in metal-clad configurations.

♦ THE PUBLICATION of two new wholesaler and dealer product lists and price schedules has been announced by Reeves Soundcraft Corporation. The two new catalogs cover the company's magnetic recording products, electrical tapes, recording discs and styli.

Information on Soundcraft products is set down in a form that will enable distributors and dealers to use it easily. In addition, the product lists have been printed in the regulation NEDA colors —goldenrod for distributors and blue for dealers. The catalogs feature illustrations of products, complete product description, detailed specifications and price breakdown.

♦ JOHN P. SULLIVAN, formerly personnel manager of Hamilton Standard, division of United Aircraft Corporation, Windsor Locks, has been elected president of Hamilton Electrona, Inc. of 40 Wall Street, New York.

Hamilton-Electrona is owned jointly by Irving Rossi of Dunross Farm, Morristown, New Jersey, the Carl Zeiss Foundation of West Germany and United Aircraft Corporation of East Hartford. It has been established

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for the purpose of marketing in this country and Canada the Hamilton-Zeiss electron beam process and its equipment.

Hamilton Standard also announced that John C. Sterling, Jr. has been appointed project manager for the company in setting up to develop and manufacture the Zeiss equipment at its Windsor Locks plant.

♦ APPOINTMENT of William E. Lett to the newly created post of export sales manager of Burndy Corporation's Utility-Industrial division has been announced by Eric E. DeMarsh, vice president and U-I division general manager. With headquarters in Norwalk, the company is a leading manufacturer of electrical connectors.

From 1952 to 1959 Mr. Lett had been export sales manager of Noranda Copper and Brass Limited, of Montreal, Canada. In that capacity he traveled an average of 30,000 miles a year, mostly in Latin America.

♦ FRANK MAZZABUFI has been named superintendent of production and head of labor relations for The Dextone Company, New Haven, it has been announced by Louis L. Falco, president. He was formerly employed at Bridgeport Brass Company.

The Dextone Company operates two plants in the Greater New Haven area and is a pioneer in the precast industry with a successful operation dating back to 1908. The company specializes in the manufacture of such precast products as Mo-Sai precast exposed aggregate facing units, Dextowall insulating curtain panels and prestressed structural members.

♦ M. SETLOW & SON, INC., New Haven nationally known manufacturer of work clothing and special type of garments, will re-locate in Orange, it has been announced by Herbert D. Setlow, president.

The company's new $200,000 office and industrial building will be located on a two-acre tract of land on Indian River Road at the foot of Racebrook Road. The structure will be one floor high and occupy 17,000 square feet on what is now known as the Hillside farm.

M. Setlow & Son, Inc., was founded by Moses Setlow and his son, Joseph H. Setlow, grandfather and father of Herbert D. Setlow, who now heads the firm. The company, one of the oldest manufacturers of work clothing in the United States, opened its doors for the first time in Montville, Conn. in 1896 and moved to New Haven the following year.

♦ THE SECOND annual photo-

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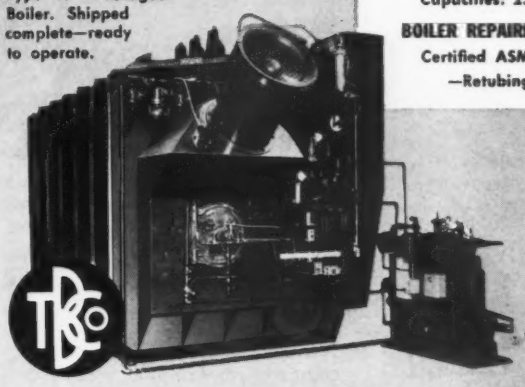

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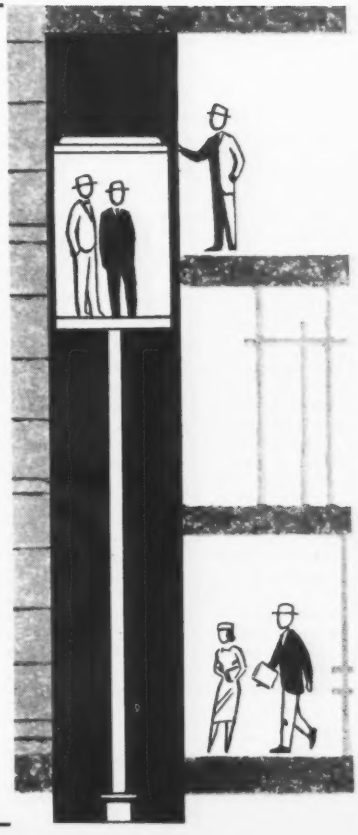

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THE GRIMES ENGINEERING CORP.

38 Cody Street, West Hartford, Conn.

Preparing for the photographic exhibit at the Burndy offices in Norwalk, believed the only one of its kind held by an industrial company. Betty DeMeglio of Norwalk, an employee of the company, is helping Robert Lentini, chief photographer, of Westport, pick entries for the exhibit.

graphic show held by Burndy Corporation at their Norwalk plant recently, featured photographs submitted by company employees as well as outside professional and commercial photographic exhibits.

Burndy employees exhibited nearly 1500 photographs, including color, black and white, stereo and color slide transparencies.

Commercial and professional displays included prize-winning prints from the Annual Popular Photography $24,000 International Picture Contest, the Scholastic Ansco Contest, the Kodak High School Contest, and the 11th Annual Graflex Photo Contest.

♦ UNITED Aircraft Corporation's Research Department, established as a separate facility nearly 30 years ago, has been renamed. It is now United Aircraft Corporation Research Laboratories.

"The change from Research Department to Research Laboratories is not a change in name only," William P. Gwinn, UAC president said. "It marks an appreciation of the significance of basic research to the company as a whole.

"The change also marks a turning point in the Laboratories' activities away from short-term and applied research toward the fundamental, such as solid-state physics, which is basic to improvement in materials, and plasmas and ionized gases which are basic not only to space travel but to several promising commercial applications as well."

In virtually every new program undertaken by the divisions of the corporation, the Research Laboratories has performed esssential studies and experiments, and often has participated in the division's design and development programs.

From its beginning as a flight test and patent group in 1930, the organization has grown to an establishment of more than 600 people of whom 47 per cent are professional scientists and

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engineers. Many of the people whose experience was acquired in this department in past years hold executive or engineering positions today in the manufacturing divisions of United Aircraft.

♦ A NEW LINE of silicon alloy transistors for military and industrial electronic applications has been introduced by National Semiconductor Corporation. These transistors, which represent an advancement in the state of the art, are currently being produced at the company's "controlled conditions" plant in Danbury.

Designated by type numbers 2N1440, 2N1441, and 2N1442, these transistors are specifically designed for small signal applications, e. g. audio, servo and D.C. amplifiers. Low noise and high gain amplification characteristics at low collector currents are said to make these transistors ideally suited for front end applications.

Unique features claimed for these units, as compared with similar transistor types, include: highest device dissipation at elevated temperatures (100 mw at 125°C in free air); highest junction and operating temperatures; and, guaranteed maximum current gain and maximum collector cut-off current at 150°C.

♦ A SURVEY shows approximately 7,550 acres of industrially zoned land in the greater New Haven area, immediately accessible to rail, highway and deep water transportation, is available for development by industrial manufacturing firms.

The amount of unused land available for potential industrial sites in the 14 regional cities and towns is contained in a study made by the Industrial Development Committee of the Greater New Haven Chamber of Commerce.

Detailed maps showing the exact areas ready for industrial development were prepared by William Kane and Lawrence Moore of Technical Planning Associates. The amount of unused industrially zoned land in each town and city is recorded on the maps.

A breakdown of the unused land in the various communities is as follows: Bethany, 450 acres; New Haven, 600; Cheshire, 1,000; Wallingford, 450; Hamden, 700; Milford, 1,000; Orange, 450; Guilford, 300; Branford, 600; East Haven, 400; North Haven, 1,000; West Haven, 500; and Woodbridge, 100.

♦ AT THE CLOSE of 1959, The Smith-Worthington Saddlery Company, Hartford, completed 165 years of continuous operation. Founded orig-

In southern New England, ***one name alone*** covers your complete needs in masonry units — ***Plasticrete!***

For throughout the Plasticrete line, quality materials are backed up by a generation's know-how in engineering and production, under constant laboratory scrutiny. Plasticrete deliveries, too, are swift and sure; even the furthest corners of Connecticut are barely 30 miles from one or more of our manufacturing plants.

YOUR CURRENT INTEREST

in masonry materials may be for a complete new building, or simply for plant alteration or additions. Whichever it is, you can simplify your construction problem — and at the same time save time and money on it — by specifying *Plasticrete* on all your masonry units.

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building bloc	reinforced lintels	Ramblestone & Roman Roughs
Spectra-Glaze bloc	brick—clay* & concrete	Hi-lite & Shadowal bloc
Dox floor & roof plank	chimney bloc & caps	Grille bloc
channel plank	manhole & catchbasin bloc	Dur-O-waL reinforcing

* *made by the STILES CORPORATION, Plasticrete's clay products subsidiary*

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New England's largest manufacturer of masonry materials
24-hour laboratory controlled

•

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HAMDEN	HARTFORD	NORTH HAVEN	WATERBURY	WILLIMANTIC
ATwater 8-1641	CHapel 9-6515	CEdar 9-1621	PLaza 5-2259	HArrison 3-7249

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inally, on August 9, 1794, as a saddlery house, the years have brought many changes in the type of equipment produced, and the addition of many new lines.

During all that time proprietors have changed only twice, in 1928 and 1957, and in the first 111 years of operation the company was managed by only two generations of the Smith family.

To keep pace with changing conditions in market requirements, the transition was gradually made from harness for draft horses to the modern jumping saddles used in international horse shows. The company has furnished police departments in many U. S. cities with Sam Browne belts, holsters, handcuff cases, clip cases and billies.

During World War I the company supplied the U. S. Cavalry with various types of Army saddles. During World War II various items of defense were produced for the War Department, such as chronometer cases and leather caps for telescopes.

The company is now headed by Clinton C. Hanks, president.

♦ RAYMOND T. ALCOTT retired recently as sales manager of J. H. Sessions & Son, Bristol, after having entered his fiftieth year of continuous service with the company. Mr. Alcott joined the company in June 1910 as an officer worker. He was promoted to the sales department in 1913 and became sales manager in 1945.

♦ WALTER S. BROWNING, vice president of heating sales for Dunham-Bush, Inc., West Hartford, has announced the appointment of Joseph Jacobs, Jr., as advertising manager. Mr. Jacobs will direct all phases of advertising and sales promotion for the company's extensive line of air conditioning, refrigeration, heating and heat transfer products.

♦ THE WALTHAM Precision Instrument Company, which has a plant in Brookfield, has announced a hitherto secret project called Project Synthetic Sun.

According to George T. Wendelken, head of the thermal dynamics products division, the process "creates a sphere of intense heat the size of a basketball suspended in mid-air." This pure, uncontaminated thermal energy, such as the sun gives forth, "is captured within a system and radiates back and forth until utilized for whatever purpose desired."

The project involved the application of a multitude of radiant energy sources arranged in a manner similar to the solar system, but functioning in

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reverse. "In the actual solar system," Mr. Wendelken said, "the sun is the source of the energy which is radiated out to the planets. In our Project Synthetic Sun, the flow of energy is reversed, and the radiant energy sources, or artificial planets, are the source of thermal energy being radiated toward a central point which builds up in size and becomes a synthetic sun.

♦ FIVE EXECUTIVES at the Fuller Brush Company, East Hartford, have figured in the election of new officers and directors.

Louis H. Graham, former comptroller, has been named treasurer and a director; Joseph B. Burns, attorney for the company, has been elected secretary; Charles L. Oehler, office manager and tax accountant, has been advanced to comptroller, and Richard F. Sonneborn, president of Fuller's Mohawk Brush subsidiary, has been elected to Fuller's board of directors.

Other key changes announced by President Avard E. Fuller included the election of Lester H. Carl, vice president and general manager and Mr. Graham to the board of directors of the Fuller Brush Co. Ltd of Hamilton, Ontario.

Mr. Graham joined the company as a bookkeeper in 1921 and was named comptroller in 1945. Mr. Burns, a director since 1955, was counsel of MAC earlier in his career. Mr. Oehler was with the accounting firm of Hadfield, Rothwell, Soule and Coates before joining Fuller in 1945. Mr. Carl joined the company in 1945 and was industrial sales manager before his more recent executive appointments.

The new show spectacular unit of Landers, Frary & Clark was shown for the first time at the Chicago Housewares Show. Display Workshop, of Hartford, developed the Loewy theme and produced the exhibit.

♦ IN ITS first appearance at any trade show, the new Landers, Frary & Clark corporate symbol and trademark keynotes a new Raymond Lowey inspired exhibit at the Chicago Housewares Show.

Modern in decor, the new setting for the showing of LFC-Universal electric housewares, vacuum bottles, and other products, has a 40-foot long section featuring a panoramic showing of products. In addition, a ten foot section shows the LFC-Universal trademark in giant size, in its new black, gold and white color scheme.

Three petal-shaped pylons rotate in a new motion design and show three of the new LFC-Universal Electric Housewares products.

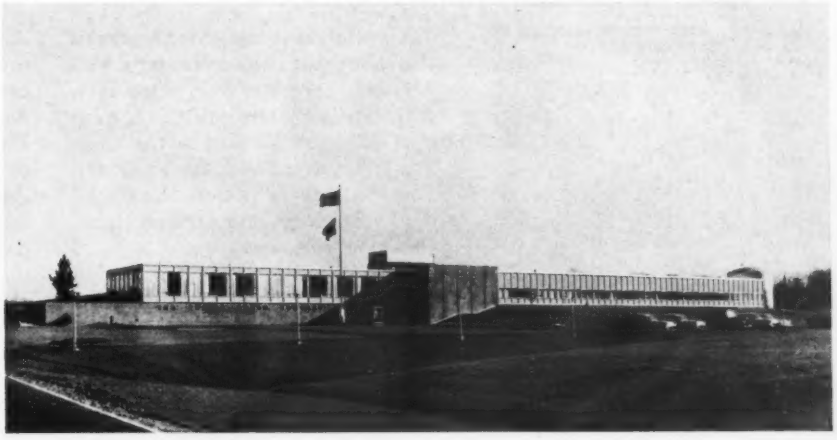
♦ HARVEY L. SPAUNBURG, president of MAC and chairman of the board, Veeder-Root, Inc., Hartford, accompanied by Mrs. Spaunburg, left on January 9 for an extended business trip to Paris, Zurich, Germany, India and Australia.

In order to cover the territory by March 14, when he is scheduled to return to Hartford, he is traveling by air exclusively.

A SALUTE TO

THE FULLER BRUSH COMPANY

EAST HARTFORD, CONNECTICUT



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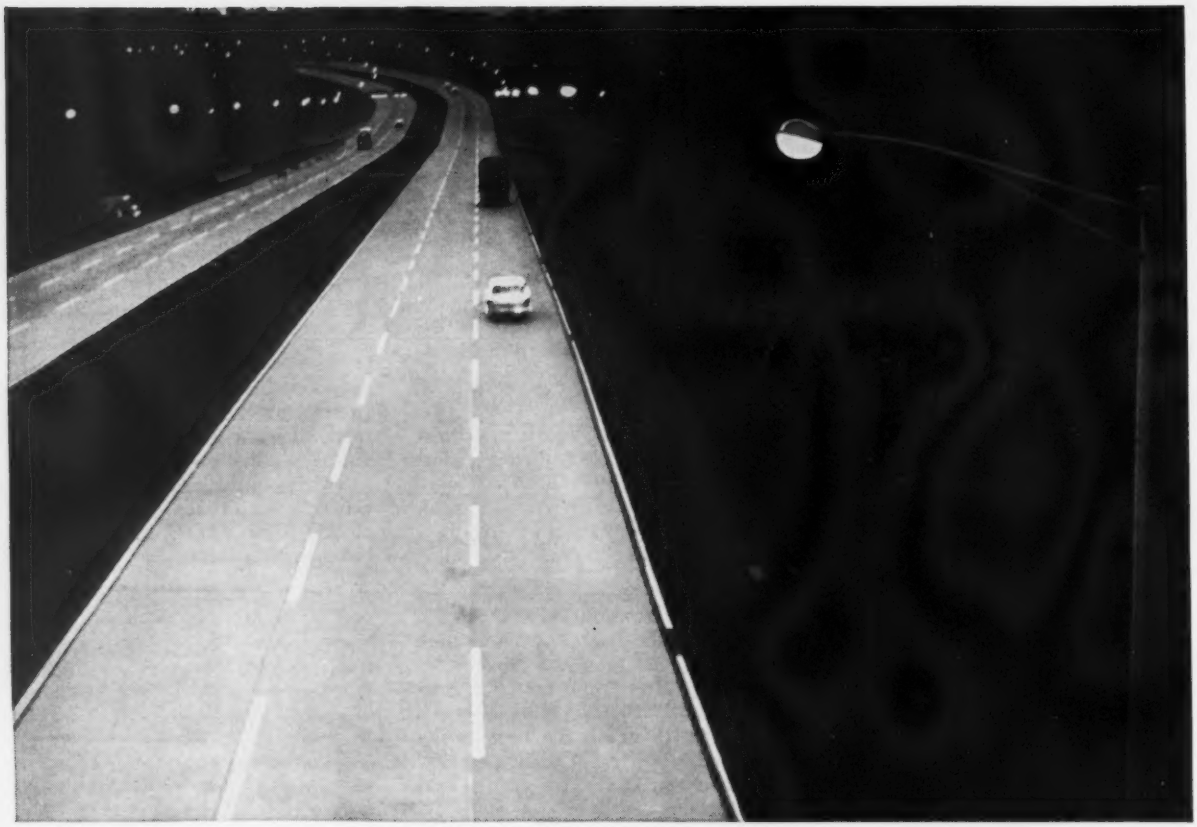
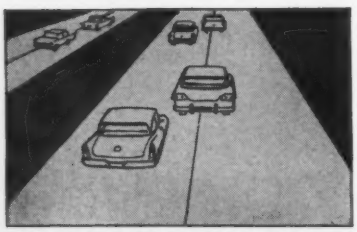
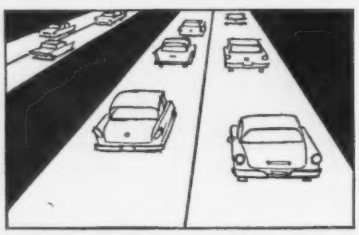


On the Connecticut Turnpike, they paved with CONCRETE

...got better night visibility at no extra cost!



Traffic pattern often caused by low light level.



Improved traffic pattern with high light level.

Connecticut Turnpike experience shows it. On high-visibility highways, drivers pass freely, don't crowd center lines, don't string out. The traffic capacity of the highway is increased.

The world's longest lighted highway shows another big advantage you get with concrete. The extra high night-visibility level on the heavy-duty, lighted section of the Connecticut Turnpike comes from the very nature of concrete. Dark-colored pavements absorb light. Concrete reflects it.

American Standards Association recommendations for standard lighting practice show *lights are twice as effective on high reflectance surfaces, like concrete,* as on dark surfaces. You get double the light—or you can use up to 50% fewer fixtures, still get recommended lighting levels. And you cut the electric bill—up to $720 per mile per year.

And with concrete, initial cost is moderate—often lower than for other pavements when costs are based on load-carrying capacity. Maintenance cost will run as much as 60% lower than for asphalt. You get a 50-year-plus service life. Little wonder that concrete is the preferred pavement for heavy-duty roads like those on the new Interstate System.

FOR HIGHWAYS WITH A SOLID FUTURE...
Concrete

PORTLAND CEMENT ASSOCIATION
20 Providence Street, Boston 16, Massachusetts
A national organization to improve and extend the uses of concrete

How Would You Decide?

By Fredrick H. Waterhouse
Executive Vice-President

May the union demand an employee be disciplined?

Here's what happened.

The union complained and filed a grievance claiming that a lead-man had been abusing an employee in the presence of other employees. It claimed that this abuse was a violation of the contract as it was a complaint about working conditions which were subject to grievance and arbitration under the contract. The union agreement provided for filing grievances with the eventual right of arbitration in the event of "any difference" between the company and an employee regarding working conditions." The union pointed out the very broad language of the contract permitting arbitration on any difference which might arise rather than the more limiting phrase found in many contracts which confined arbitration to interpretation and application of the terms of the agreement. Since the treatment of an employee by a lead-man was a working condition which developed a difference between the company and the employee, the union claimed it was a proper grievance and subject to determination by the arbitrator. In fact, the union went so far as to claim that if the working conditions were made so difficult by this particular key man the arbitrator should be empowered to remove him, but the union would not claim the right to designate any specific person who should be put in the job. The lead-man under discussion was a member of the bargaining unit. The company claimed that disciplinary action is a company prerogative and although the union had the right to review or challenge any disciplinary action which was taken, it could not protest the company's failure to take disciplinary action.

Is the objection to a lead-man a difference between the company and the employee which is arbitrable?

The arbitrator ruled that the management rights clause foreclosed the arbitration of this grievance. That clause reserved to management the right to discipline except as modified by the agreement. There was nothing in the agreement giving the union the right to initiate or insist upon disciplining a fellow employee.

May the company schedule individual daily overtime work when the plant is on a 35-hour week?

Here's what happened.

Under a clause in the contract the company reduced the work week to 35 hours rather than lay off employees. In one department where the basic schedule was five seven-hour days per week, a different employee was asked to work the eighth hour each day. In another department with the same basic weekly schedule of five seven-hour days, individual employees alternated in working a 40-hour week of five 8-hour days. The union complained and claimed that the company should schedule all employees in each of these departments on a uniform daily schedule. The company claimed that there was no restriction in the contract preventing the company from scheduling individual employees to work daily schedules necessary to cover the requirements of the particular department. The company also pointed out that under the contract it has the right to schedule overtime work when it was considered necessary but it was required to divide this overtime work as evenly as possible among employees performing the same type of work within a particular department. It claimed that if it would schedule overtime work on an individual basis when it was on a regular 40-hour week it certainly had the same right to schedule individual overtime work when it was on a 35-hour week schedule.

Can the company schedule individual overtime?

The arbitrator was unable to find any provision in the contract which required the company to schedule all employees for the same number of hours in a work week. The operation of the company was, in effect, the establishment of a 35-hour work week and the company could apply the same standards with respect to equalizing overtime on the basis of a 35-hour work week without being compelled to establish a 40-hour work week.

Does an extended period on an hourly rated job remove an employee's incentive status?

Here's what happened.

A couple of months ago we reported a case under the same contract in which an arbitrator ruled that the person who had been regularly on incentive was entitled to his average earnings while he was on an hourly rated job for only ten days before being transferred back to incentive work. This was considered a temporary transfer by the arbitrator although the company had made the transfer from incentive to an hourly rated job with the understanding on its part that it would be permanent. Conditions changed and the employee was put back on incentive ten days later. In the present case the employee who had been on incentive work for an extended period of time was transferred to an hourly rated job which he contin-

WATER!
CLEAN CLEAR COLD
GOOD FOR MAN, CROPS AND INDUSTRY
400 G.P.M. FROM A DEEP ROCK WELL

Certain areas of Connecticut are blessed with wonderful underground supplies of good water. The Church Company's many years of experience and improved methods of drilling and development are making these large supplies of water available—this applies to both rock and gravel formations.

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ROCK WELLS—GRAVEL WELLS—PUMPING EQUIPMENT
SPECIALISTS IN LARGE WATER SUPPLIES

Eliminate situations like this "Cord Stretcher"

PLUGMOLD®
GIVES MORE OUTLETS FOR LESS MONEY

Situations like this can't happen with PLUGMOLD, used for ample outlets in all kinds of buildings. Wide variety of sizes and spacing. All-steel, grounded. PLUGMOLD gives HOUSEPOWER-PLUS; work-power-plus! Simple to install on any surface. Paint to match anything.

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All-purpose liquid detergent

Mop it on...

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Let Cindet suds lift the dirt for you

CINDET does more cleaning with less effort and less material; works in hard or soft water.

CINDET outstrips them all as a wax stripper. Cleans walls, woodwork, tile, porcelain, glass, metal.

CINDET does a cleaner job—cuts labor costs: Mop it on, walk away, come back and pick it up.

CINDET does the job with no drag because dirt particles shatter, lift and ride high.

For free sanitary survey of your premises ask your Dolge Service Man

Dependable DOLGE WESTPORT, CONNECTICUT

ued to perform for over six months. The company claimed that when an incentive worker was permanently assigned to an hourly rated job he must lose the privilege of carrying his average hourly earnings with him in the same manner he would have carried them on a temporary transfer. The union's claim amounted to the proposition that a man who had once achieved incentive might be absent for many years on an hourly rated job and then be returned to a non-standard job in an incentive grouping and expect to receive his old incentive earnings average.

Is the union's claim "once on incentive, always on incentive" valid?

The arbitrator recognized and commented upon the previous decision we mentioned previously but ruled that the union's request for average earnings under the circumstances in this case was without support in the contract. He commented that if it were demonstrated that the moves to an hourly rated job and then to a non-standard job in an incentive goup were made to avoid continuing the average rate for an incentive worker on such a non-standard job, it would not prevent the employee from receiving his average rates but in this case all the moves by the company were in good faith in the proper operation of the plant.

Ultrasonic Energy—Super-Servant To Industry

(Continued from page 9)

line of instruments uses the pulse-echo system to detect flaws. They offer greater portability, as well as convenient size and weight for field testing, and will locate such faults as cracks, inclusions, or porosity. In this case, ultrasonic vibrations, reflected by the fault, are picked up by the transducer and show up as an extraneous signal on the screen. The operator can then determine approximate location, size, and other characteristics of the flaw. An accessory alarm, also available from Branson, permits automatic flaw detection for continuous production lines.

Branson also manufactures and sells to the users of its testing equipment a complete line of transducers, in a variety of shapes, sizes and mountings. Other available accessories are oscillators, direct reading scales, recording attachments, and automation converters.

Sonogen Cleaning Equipment

In 1952, Branson launched both a new company and a new product. After years of research and development work, Sonogen ultrasonic cleaning equipment was placed on the market, and Branson Ultrasonic Corporation was formed to manufacture and sell it.

Ultrasonic cleaning equipment is used in a wide range of industries, to handle both the toughest and most delicate of cleaning chores.

In the electronic, missile and aircraft fields, miniature components, transistors, vacuum tube parts, and relays must be microscopically clean. Even a speck of dirt might cause failure or malfunction of one of these components, resulting in breakdown of an expensive and complicated assembly. Ultrasonic equipment cleans these parts gently, but more thoroughly than other conventional methods, and in substantially less time.

Metal fabricators and platers use Sonogen equipment to remove grease, buffing compound, rust and other hard-to-clean soils from all types, shapes, and sizes of parts. In addition, the units can handle plastic, ceramic, glass, or virtually any other immersible material, and cut cleaning time drastically.

The unique cleaning action is based on a principle called cavitation, which can be described as the growth and collapse of millions of tiny bubbles in an ultrasonically activated cleaning solution. These minute "implosions" literally blast contaminants from any immersed solid surface. Acting like miniature scrub brushes, they reach into crevices, blind holes, undercuts, and even pores where manual brushing would be ineffective or impossible. And yet, the only sign of this tremendous activity is a faint crackling noise and the appearance of faint whitish "spiders" on the surface of the liquid.

A basic ultrasonic unit consists of a tank which contains the cleaning solution, a bank of vibrating transducers, and a generator which energizes the transducers. The generator steps up 60-cycle electrical energy to 38,000 cps, and the transducers convert this to mechanical ultrasonic energy of the same frequency.

Branson Ultrasonic Corp. produces six standard sizes of generators for use with cleaning tanks having capacities ranging from one to 300 gallons. In addition, the company designs, manufactures and sells complete ultrasonic systems, including recirculating and filtering units, rinse tanks and driers. Custom designed cleaning installations account for one-half of the company's business.

With the aid of ultrasonic energy, many companies have solved particularly difficult cleaning problems, and have been able to substitute inexpensive and safe detergents for hazardous or costly solvents and chemicals. A separate testing laboratory is maintained

to evaluate the effectiveness of various cleaning agents and methods.

Ultrasonic News

To extend its coverage of the ultrasonic energy field, Branson purchased the trade publication, Ultrasonic News. This magazine, acquired in October 1958, publishes articles on the latest developments and applications in the field of industrial sound engineering. Branson Ultrasonic Corporation has established an independent editorial staff, and plans to continue sending the journal, free of charge, to a selected list of recipients. Paid subscriptions and advertising are also accepted.

The endless quest for better products, responsible for Branson's success story, is still evident. In modern, well-equipped laboratories, research and development engineers constantly seek to develop new ultrasonic equipment and improve older products. An estimated 10 per cent of the aggregate gross sales of both Branson concerns is being spent on research, design and development.

In little more than a decade, the Branson companies have grown from merely an idea in a fertile mind, to a pre-eminent position in the ultrasonic field. Concerning this phenomenal rise, Mr. Peter K. Bloch, president of Branson Instruments, Inc., offered this philosophy: "We should like to feel that our growth is primarily of our own doing, but we know this is not entirely true. Industry is awakening to the wonderful possibilities inherent in ultrasonic testing and power work, and all we have done is to design reliable equipment to meet these needs."

Already an established industrial tool, ultrasonic energy promises even more during the next decade. For the men who founded the Branson companies, Messrs. Branson and Bloch, the future is a challenge to their skill and ingenuity in producing the finest and most reliable ultrasonic equipment.

Pitney-Bowes Celebrates Expansion and Modernization

(Continued from page 13)

stamped letters, or sort 600 pieces of mail into any of 300 cubbyholes.

Even though the company is not numbered among the country's giant industrial corporations, Pitney-Bowes' gross income has jumped six times since the end of World War II and has more than tripled in the past ten years to reach $51,341,000 in 1958, with profits increasing concurrently to a high of $4,424,000, or $3.20 per share.

Among the prominent government, business and community leaders who visited the newly modernized and expanded plant and office facilities on October 5, 1959 were: Assistant Postmaster General John M. McKibbin; Senator Prescott Bush; U. S. Representative Donald J. Irwin of Norwalk; State Attorney General Albert L. Coles; Alfred C. Neal, president of the Committee for Economic Development; Frederick H. Ecker, president of the Metropolitan Life Insurance Co.; K. C. Dalglish, president, and B. A. Diekman, comptroller of Pitney-Bowes of Canada, Ltd.

Dignitaries representing the area in which Pitney-Bowes employees live included Mayor and Mrs. Webster C. Givens of Stamford, First Selectman and Mrs. Charles F. Kelley of New Canaan, and J. Walter Kennedy and Malcolm W. Meyer, and their wives. Area Postmasters present included Paul P. Pavia of Stamford; James J. Slattery of Norwalk, Francis Whelan of Darien, Ralph D. DePanfilis of South Norwalk, and Edward J. Butner of Westport.

The group also included contractors who worked on the Pitney-Bowes building program: Leo F. Caproni of New Haven, architect; Fred M. Kione of Stamford, general contractor; Leon Sherburne and Robert McKean of New York, interior decorators.

QUIK-FORM
CARTON FORMER

NEW
LOW COST
QUICK CHANGE-OVER
1000 PIECES PER HOUR
NO GLUE PROBLEM
SMALL . . . PORTABLE

WHAT THE MACHINE DOES

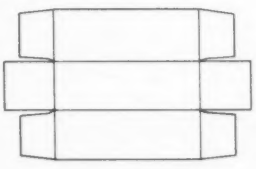
This simple but ingenious machine forms a flat blank into a carton and sets the adhesive. The end panels of the blanks are coated by Robertson with a heat sensitive adhesive which is dry until activated by the heat unit of the Quik-Form machine. Both ends of the carton are sealed at the same time.

WHAT TYPE OF OPERATION IT FITS

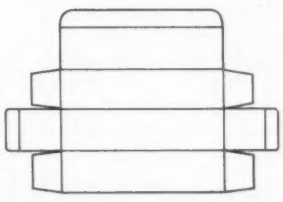
This low cost semi-automatic machine, with rapid change-overs from size to size, fits a production need between hand formed cartons and high speed automatic carton forming machines. Also, it offers metal edge users a tough, strong carton for many purposes at a lower cost than their present packaging operation. Further, it is more economical than a set up box operation in many instances. It is ideal for packagers using cartons with polyethylene coating.

TYPE OF CARTONS FORMED

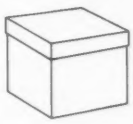
Trays



One piece box with hinged cover



Two piece telescoping carton



ROBERTSON·PAPER·BOX
COMPANY · INCORPORATED
MONTVILLE · CONNECTICUT

FRASSE ALUMINUM

helps tell how she's doing!

Ballistic missile success hinges on intelligence obtained in test firings. Tracking data – reporting velocity, direction, altitude, temperature, etc. is vital – when processed, it guides critical design changes.

Heart of the intricate data processing system at Cape Canaveral is a Potter Magnityper – a high speed electronic printer that decodes raw material . . . then stores, collates, interprets and prints at 72 *thousand* characters per minute. Lightweight, non-magnetic aluminum is essential to its efficient operation – that's why the Magnityper is made almost completely of Frasse aluminum.

Frasse ships the required sizes quickly from stock – in the grades that contribute to its ease of fabrication *and* performance. For example, Frasse supplies 2024-T4 bars for *strength* and *machinability*, 5052-H34 sheet for *formability* and *weldability* and "775" tooling plate for *dimensional accuracy* with *no distortion when worked.*

Perhaps these same qualities can increase the efficiency of *your* product – or reduce fabricating costs. It's worth investigating – and a Frasse aluminum specialist will be glad to help. There's no obligation – simply write or call your nearest Frasse office. You'll be glad you did.

Call FRASSE for ALUMINUM

Screw Machine Stock • Bars • Rods • Wire Sheets • Plates • Tubing • Holobar Pipe • Fittings • Valves • Extrusions Tool and Jig Plate

Peter A. Frasse & Co., Inc.

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Public Relations

By Charles E. Reiche
Public Relations Director

A Question and Some Answers

♦ THE question is often asked "Why does MAC need a public relations operation?"

This is a question which deserves a thoughtful answer.

It is only in comparatively recent years that the Association has had a public relations director. Already a great deal has been done through that office to make Connecticut men and women conscious of the importance of the state's industrial economy. There is, however, more and more to be done.

The answer then, to the question we get so frequently is this: MAC needs a public relations operation to punch out the message steadily—by way of all media—that the lifeblood of our *whole* economy in Connecticut depends for its well-being on the good health of our industrial economy.

There are, it is true, subsidiary needs for a public relations staffer here at MAC headquaters.

First is the need for furnishing how-to-do-it help to members who are new and inexperienced in the public relations seas; or who may be shy about dipping their toes in the PR water for the first time. This is a continuing operation which is helpful to all MAC members, even those which are staffed with competent PR help.

Second is the need for creating a favorable picture of MAC as an association, a specific and easily defined entity as contrasted to the larger and more general term of "Connecticut industry." It is important, this writer feels, that MAC be more and more widely brought before Connecticut people as an organization which has the highest interests of the state at heart and is continually promoting those ideas and actions designed to provide more and better jobs for all.

On the larger scale—the presentation to our citizens of the need for a healthy industrial economy—there appears to be a big field ready for plowing. In the past, work has been accomplished but now the actual chore of tilling the soil is at hand. We must continue to spell out for our friends and neighbors the importance of our industrial economy in positive words.

Many of them will welcome such information. They know that the economy is healthy today but too many of them fail to recognize that it is healthy simply because our industry flourishes; and flourishes despite a climate that is not nearly so favorable as in many other states.

Connecticut people know many of the things we must tell them but are often lethargic about them, especially in legislative or local governmental affairs. Now we must begin to emphasize what our industry means to *all* of them and what must be done to guard our industry and, in fact, expand it.

We must start with basics. We must tell again the story of free enterprise, probably the most important philosophy ever given to the world by the United States. We must use every media available to us to do this: press, radio, TV, magazines, newsletters, bulletins and by way of our Speakers Bureau.

Above all we must be sure that every project we use to spread the gospel of a healthy industrial economy is one aimed at *all of our Connecticut people.* We must bypass the pitfall of talking to ourselves.

We must, finally, shed our caution and be willing to make ourselves heard in forceful tones. We must become vocal and forget that we are supposed to be tight-lipped and reticent.

Here is a serious, not to say vital, challenge at hand. It is nothing less than the fight for the continued well-being of Connecticut industry. This challenge forms the background to the answer of our key question: "Why does MAC need a public relations operation?"

We propose to carry forward this operation at an accelerated rate.

Specifically, there are many areas where Connecticut industry can make its influence felt. The Association has already taken a positive step in the field of vocational education via its new MAC awards which were announced in the state press in January. And there are other aspects of the whole educa-

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tional arena which are now being studied by the MAC staff wherein it is expected that the Association can play an important role.

In the legislative field, both state and local, industry in this state can do a great deal to help itself and at the same time all facets of the Connecticut economy. Much thought and study are currently being given to this, both by MAC staff and by members of the Association's committees. It is anticipated that by mid-1960 a detailed program will have been worked out for pursuit of sound legislative goals.

It is also anticipated that greater use will be made in the future of both the airwaves and the printed word.

Most of us are aware of the problems which face our industry. It now becomes a matter of agreeing on the right weapons with which to combat these problems. It is in this area, in the matter of creating and developing the right weapons, that your MAC public relations operation is indeed important.

It is in this area that we are now concentrating our efforts.

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Preparing For Renegotiation

(Continued from page 15)

tractors could be. So the best thing to do is state the known facts of performance straightforwardly and objectively and let them speak for themselves.

Efficiency. This term is used to mean not only a degree of smartness in performance, viz. delivery of required quantity of properly built product on schedule with trouble free customer relations, but also economy in the use of resources such as skilled labor, controlled material, floor space and equipment. Good housekeeping is a symptom if not a proof of efficient management. In some respects this factor overlaps that dealing with reasonableness of costs and profits. It would normally follow that smart management would achieve low costs and substantial profits. But a high profit is not necessarily a proof of efficiency since it could be the result of overpricing through unfamiliarity with the article.

Rather than accept profit as an indicator of efficiency a comparison of unit costs with those of other sources for the same or equivalent product would be necessary. Barring this, dependence must be placed upon the elements previously enumerated. This suggests the direction for self-examination by a contractor.

Reasonableness of Costs and Profits. If a contractor is efficient as previously defined it is hard to see how his costs could be other than reasonable, that being a relative term.

Quality of performance and relative cost are inter-related in several ways. High quality at high cost may well mean concentration on the former at the expense of the latter. Low quality of performance coupled with low relative cost suggests a rather unsatisfactory supplier concentrating on winning a "fast buck". These two situations are extremes that are in the minority. Between them lie the majority of defense contractors, each offering a situation differing in some respects from every other and being the main reason for the existence of renegotiation.

A renegotiator, then, is concerned with performance first—quality, quantity, timeliness, cooperation—and employs special means to establish excellence therein. Satisfied on that score he examines the accounting report for comparisons that are significant. These are comparisons of profit between renegotiable and other business; of profit on both classes this year and in previous years; of relative change in individual cost and expense account totals; fluctuations in gross profit ratios; differences between methods of obtaining and producing defense and normal commercial business; and inconsistencies in allocation of cost and expense elements.

From all this and anything else that occurs to him he attempts a judgement as to whether the resulting profit earned on renegotiable business is reasonable in view of the conditions under which it was earned. The extremes of those conditions are what create the difficulties in forming such judgement. Some industries have for years been characterized by large units operating on a very low return on huge fixed investments and net sales. At the other extreme is the small shop where the mechanical skills and long hours of a few shirtsleeved owners are responsible for profit which is normally at the high end of the percentage scale on both investment and sales volume.

Summary

Much more could be written on this subject if space premitted. It is hoped the main point has been made, that careful preparation in all three areas—segregation, accounting analysis and reasoning under the factors—is justified by the results.

Impressions gained during six years of intensive work with the New York Regional Renegotiation Board, seasoned by seven other years' experience in contract price negotiation, part with government and part with private industry, may be summarized as follows:

Some manufacturers are not well versed in the regulations; others are handicapped through inadequate accounting procedures or not taking advantage of those they have.

Contractors can count on the sincere, open-minded objectivity of the Board members in their implementing of the Act.

Contractors must realize that it is out of the question to expect to find in any group of the size of that Board and staff all the varied experience necessary to recognize every significant fact in every manufacturers's situation, covering hundreds of industries, thousands of plants and endless variety of items in defense production. Therefore each contractor should be thorough in his study and presentation of all matters of significance in the renegotiation of his profits.

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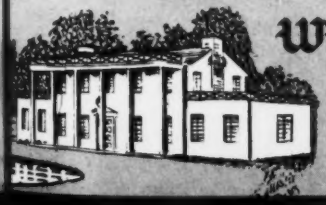

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- ☐ *Acquire a New Product*
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- ☐ *Merge with Listed Compa*
- ☐ *Divest Product Line*
- ☐ *Sell Business*

ORGANIZATION

- ☐ *Clarify Responsibility*
- ☐ *Revise Compensation Pla*

MARKETING

- ☐ *Arrest Declining Sales*
- ☐ *Improve Share of Marke*
- ☐ *Expand Distribution*
- ☐ *Study Market Potentials*
- ☐ *Market New Product*

FINANCING

- ☐ *Obtain Working Capital*
- ☐ *Finance New Plant*

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Business Tips

Outside Services for Small Manufacturers

By ZENON S. MALINOWSKI

Associate Professor of Marketing
School of Business Administration
University of Connecticut

♦ BECAUSE many small manufacturing firms contacted during a recent survey made by the School of Business Administration, University of Connecticut, in the Hartford Metropolitan Area were unacquainted with the wide variety of services offered by the Small Business Administration (Regional Office at 44 Gillette St., Hartford) it appeared logical to outline the chief services of the SBA in this month's Business Tips Department.

In the words of the SBA's own brochure, the major responsibilities of the SBA as designated by the President and the Congress of the United States are as follows:

1. To counsel small business on financial problems
2. To help small business obtain financing from private lending sources
3. To make loans to small business when private financing is unavailable on reasonable terms
4. To licence, regulate, and help finance privately owned small business investment companies which lend to small business concerns
5. To make loans to State and local development companies to help them finance small business in their communities
6. To make loans to help restore or replace businesses and homes damaged or destroyed by disasters
7. To assist small firms in obtaining a fair share of contracts and orders for supplies and services placed by the Government
8. To assist small firms in overcoming production problems, and in diversifying their product lines
9. To assist small firms in obtaining a fair share of property being sold or leased by the Government
10. To assist small business concerns with their management problems
11. To finance research into the problems of small business.

The SBA's responsibilities with respect to assuring small business a fair share of Government contracts, orders, and property are implemented in several ways. Since a specific share of these items are set aside for small business, interested small firms should obtain listing on all appropriate bidders lists. To facilitate participation by all small firms, the Small Business Administration is authorized to certify that a firm or group of firms has the necessary productive and financial ability to handle a particular Government contract. Such "certificates of competency" must be honored by Government contracting officers. In addition, informational programs are conducted to inform the small businessman of Government's purchasing and sales methods and of the specific items being bought or sold which might be of interest to small businesses. These programs include individual conferences between small business owners, and field workers; opportunity meetings arranged by the SBA with groups of owners, associations, prime contractors, chambers of commerce, etc.; and publications. The initiative for the conferences and the opportunity meetings can be taken by any interested parties. Among the informational publications related to this purpose is the "U. S. Government Purchasing and Specifications Directory."

Pertinent also to the SBA's efforts in obtaining a fair share of purchases and sales for small business is the regional inventory or listing of productive facilities of small firms in the area. These listings are used to refer prime contract and sub-contract opportunities to qualified small firms. In fact, the field offices of the SBA are used as meeting-points for Government prime contractors and small firms with the required facilities. Finally, assistance is provided in obtaining Government contracts for research and development, and in gaining the benefits of research and development performed under Government contract or at Government expense.

(Continued on page 44)

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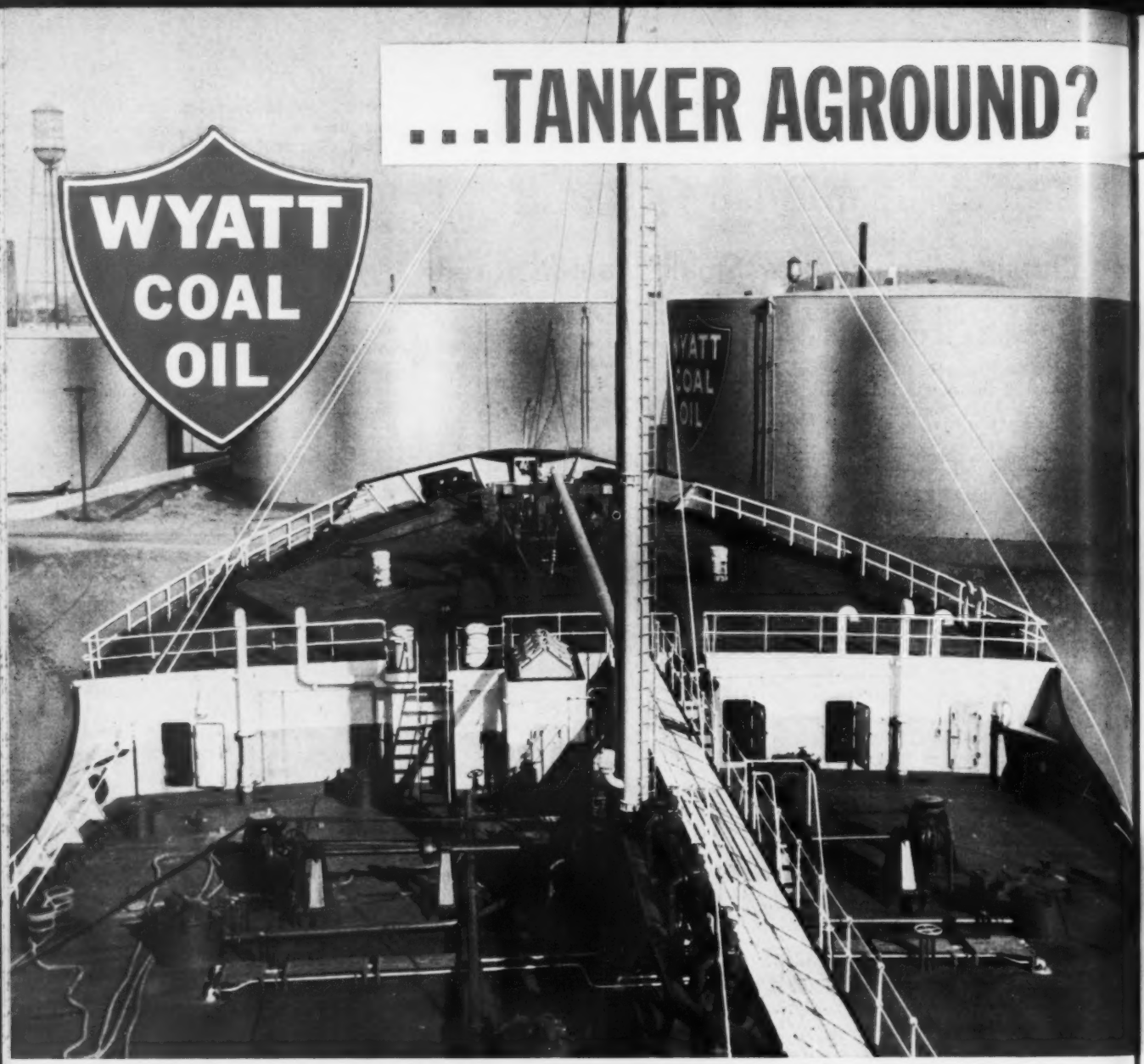

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Accounting Hints

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The Hartford Chapter National Association of Accountants

Planning Your Operations

By GEORGE F. BITTER

Assistant to the Controller
The New Britain Machine Company

♦ THE year of 1959 can now be recorded by historians as one marked by a tremendous upswing that is part of the dynamic economy in which we live.

The year of 1957 saw a significant shift in the defense program. From here on in much larger sums of money were to be spent but no longer would this money be spread out in industry as heretofore. There would be a much larger concentration of defense money because of both the very nature and the high cost of missiles.

Here at last was the time of violent adjustment after a pattern that covered almost twenty years. Industry after industry was faced with a growing crisis. Business was either declining or cancellations brought orders to a halt. "What do we do now," became almost a universal question. One by one, industries began to look around. Change was necessary and plans had to be formulated.

The captain of a ship about to leave port must chart his course to reach the desired destination. In charting this course he must take into consideration the weather, tides, wind, channel and other data available, to enable him to navigate successfully and to reach his destination.

Today, planning of business has acquired the basic philosophies of charting a course. Today, many businesses plan their operations for the coming year as well as to provide for long range planning for as long as three, five, or ten years ahead. This breed of business manager is analyzing the problems of where we are, where we are going, and how we will get there.

Where We Are

The first problem, "Where we are" requires that we stop to analyze just what makes us function. By this approach we must learn what are the types of expenses we are paying for in the conduct of our business. We must consider what decisions of policy we would make if our business were to decline or increase. We must analyze our expenses to determine whether the variability of our expenses has functioned within the framework of our policy decisions. We must determine what our fixed costs are going to be and at what specific points we will change these fixed costs.

Actually we must look at our business operation very thoroughly, not only to see what our expenses are, but also to see that we thoroughly understand our costs and expenses and their patterns of behaviour. Only after we have a complete knowledge of the patterns of our costs and expenses, are we ready to consider the next problem.

Where Are We Going?

Let us consider the problem of "Where we are gong." In order to properly consider where we might go, we must first learn what is the total market for our type of product or service. One of the better sources of this knowledge is usually found in the various trade associations. There are many and varied organizations, either governmental or in industry that can provide information for us. We can learn the total market, the average share of the market, and other data. Our next step is to compare our share of this total market. Are we satisfied that we enjoy our proportionate share, or do we find our competitors have some of the market that ought to be ours? Do we find it possible to improve our position in the market and garner a larger share? By resolving these questions, we can begin to place in proper perspective "Where do we go."

How We Will Get There

We now have the answers to both "Where we are" and "Where we are going" and now we must determine "How we will get there." First, let us take an honest look at the money we have invested in our business. We must determine what rate of return this money should yield before taxes. We must compare with the type of industry we belong to determine what the yield should be. We must compare this yield with "blue chip" stocks or

bonds. The tremendous effort and risk that is required to manufacture and market a product must bring a considerably higher yield than that which would be enjoyed from the so called safe investments.

Now, let us assume that it is our decision to increase our sales by 50%. First we must evaluate our facility. Can this facility absorb an increase of 50%? Must we expand? How much? What will be the cost? Can we move to a second or third shift? How much will the fixed costs increase? These questions must be resolved.

After we have determined the manufacturing cost of our target volume, we must analyze the marketing of our product. Do we have to increase our promotional efforts? To what extent? What will it cost? Do we need more salesmen? How many? Where? When? What will this added cost be?

We are now ready to collect all this varied data and to organize it into our plan. We should be considering two plans, one for the current year and one long range. When we have completed both plans we can see our business as it would be one year forward and either three, five, or ten years forward.

The results of the plan are either satisfactory or they are not. If they are satisfactory, management would put the plan into operation. However if they are unsatisfactory then a re-examination is necessary to see where alternative policies would produce better or the desired results.

When we are engaged in the review of completed plans, we become aware that inherent in our planning, we have established and defined future policy decisions. We have had to spell out every step of the plan as it was developed. By this very process, we as a company become both integrated and coordinated. We now can begin to function as a cohesive organization. We now know "Where we are," "Where we will go" and both "How" and "When we will get there."

Business Tips

(Continued from page 41)

To implement the ninth responsibility previously mentioned, the Small Business Administration maintains regional staffs of specialists in production. These specialists have been known to help small businesses obtain basic materials and equipment and to offer guidance on plant layout, production methods, and new products. In many of these cases, the SBA consolidates recommendations from sources in industry and the Government into a final report to the inquirer. Included also in this implementation of production assistance is a monthly Products List Circular which presents information on patented machines, devices or processes available for use by small firms through purchase.

The two last responsibilities mentioned relate to management and research assistance. In the first place, field office specialists are available for help with many types of management problems. Supplementing such counseling is a system of business reference libraries containing textbooks and other publications on business management. Secondly, the Small Business Administration in cooperation with leading educational institutions offers courses of instruction covering all aspects of administration. For example, here in Connecticut, the University of Connecticut has participated in this service for a number of years.

A third and very important way in which management assistance is provided to small business is through the medium of official SBA management and technical publications. These include: Management Aids for Small Manufacturers (e.g., "Key Factors in Starting a New Plant"); Small Marketers Aid (eg., "Cost Control Pointers for Small Marketers"); Technical Aids for Small Manufacturers (e.g., "Should Your Plant Lease Production Equipment?"); Small Business Management Series (e.g., "Profitable Small Plant Layout"); Starting and Managing Series (e.g., "Starting and Managing a Small Business of Your Own"); and Small Business Bulletins (e..g, "Selling by Mail with Limited Capital"). Finally, the Small Business Administration finances research studies designed to increase our knowledge of the problems of small business. A maximum expenditure of $40,000 per year is authorized in each of the States for research on the financing and operation of small business enterprises. Currently in Connecticut, the University of Connecticut is studying several problems under a Small Business Administration grant. Included among these are the problems of small retailers in shopping centers and the problems of small businesses forced to relocate because of highway or urban redevelopment projects.

How Your Income Taxes Can Be Cut

(Continued from page 17)

our disposal. The cost is inefficient use of resources and increasing obstacles to economic growth.

We become, on the basis of our own experience, suspicious of the integrity of the tax as it applies to our friends, neighbors, and competitors. We become envious of the tax advantages enjoyed by others, and urge Congress to give us the same type of benefits.

Often the Congress heeds these pleas and extends tax privileges, being careful to provide that these benefits are available only if certain highly specific conditions are met. After all, the Congress is the guardian of the public purse and must insure the nation's fiscal integrity.

These restrictive conditions serve to squeeze some out of the new tax privilege area; if that happens, more representatives come to Washington to show the Congress how unfairly they are treated and how just their demands for similar concessions are.

The end product is one with which we are all sadly familiar: the highest peacetime tax rate structure to be found in any advanced industrial nation as a direct result of whittling away at the tax base; an Internal Revenue Code which becomes bulkier and more complicated each year, and increasing disenchantment with the income tax—basically the fairest and most productive tax so far devised.

In many respects, the last is the gravest result of the tax-base erosion process. The self-assessed individual income tax is perhaps the greatest testimonial to the political maturity and responsibility of a nation. But the tax is losing this character as it becomes increasingly remote to most Americans and as it becomes the exclusive province of a technically trained elite.

So far, the income tax has withstood the strains of inequity and complexity. We cannot, except at our peril, assume that it can long continue to do so.

What alternative can be offered?

If all the exceptional provisions now in the law were eliminated, if a uniform tax base were provided, while maintaining the present system of personal exemptions, we could collect the same revenue we now get from the individual income tax with a rate schedule in which the first bracket rate was nine per cent and the top bracket rate was 41 per cent.

Should we, in fact, strive to broaden the tax base so drastically? As a practical matter, we have to recognize that a number of the income items not now included in the tax base are excluded because of the extraordinary costs that both the taxpayer and the Internal Revenue Service would face if they were taxed. Such items are not numerous and their number is likely to decrease as accounting technology advances.

Other items which are treated for some accounting purposes as income—or disallowed as expenses—may not

(Continued on page 60)

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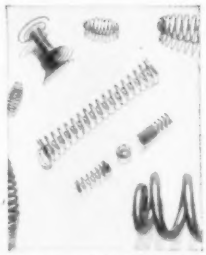

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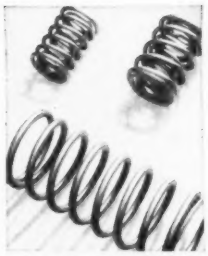

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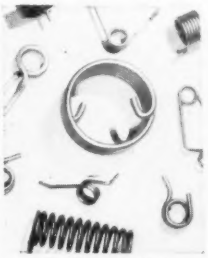

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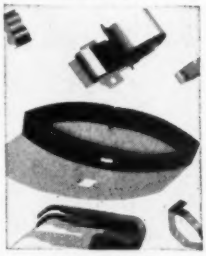

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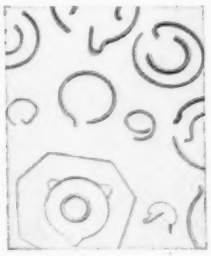

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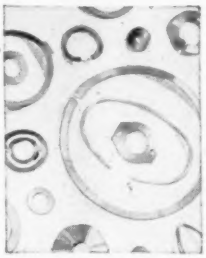

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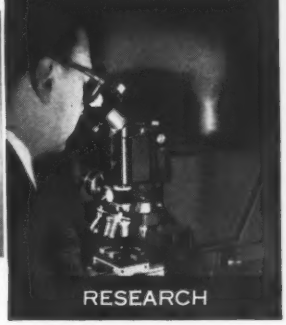
COLD-ROLLED
SPECIALTY STEEL



Wallace Barnes Division

Bristol, Connecticut

and Syracuse 9 (Solvay), N. Y.

Associated Spring
Corporation

3939

"You must have a good brand of stories to get in to see the 'top boys' every month."

Miss Jones, You're Right

CONNECTICUT INDUSTRY does have a choice variety of stories on its editorial menu each month—the types that help the decision-making men in Connecticut's manufacturing plants keep up to date on current progress and changes in the industries of the state. It is a unique type of magazine tailored especially to highlight the Connecticut industrial scene quickly for busy men who have limited reading time.

C.I.'s editorial menu provides an ideal setting for your product advertising stories. You'll be surprised at the small investment required to put your product or service advertising messages in this ideal setting en-route to the men who control the buying of over $2 billion worth of goods and services annually.

Write or call for advertising rates today.

CONNECTICUT INDUSTRY

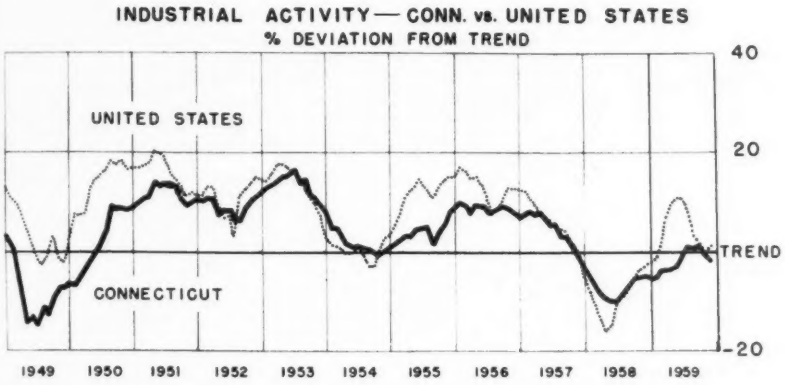
928 Farmington Avenue, West Hartford, Connecticut

Telephone Hartford ADams 3-4401

Business Pattern

A comprehensive summary of the ups and downs of industrial activity in Connecticut for the thirty day period ending on the 15th day of the second previous month.

Connecticut Business Down, Nation Picks Up



♦ OUR Index of Industrial Activity in Connecticut dropped from —0.2% in October to —1.8% in November. After seasonal adjustment, construction employment increased slightly. Manufacturing employment, average hours worked, and electric power sales all declined.

Steel operations started November 7, but the reopening came too late to alleviate the shortages which pinched state business in November. The United States Index, however, once again changed direction sooner than the Connecticut Index and rose 1 percentage point to +1.0%.

Some 600,000 workers in steel and closely allied industries returned to their jobs but layoffs by steel users increased. Total employment increased 124,000.

Now that steel is flowing again, Connecticut business will undoubtedly resume its climb toward the expected highs of 1960.

Housing Vacancies

Each quarter we review the advertisements of housing rentals as indicated in the larger Connecticut newspapers. This gives us an indication of changes in the number of vacant housing units.

Vacancies have gone up substantially since 1952 with the greatest increase coming since 1956. In the past three years the total number of vacancies for the areas in our study more than doubled. The New London-Norwich-Willimantic and the Waterbury areas have recorded the smallest relative increases in this period. Hartford-Manchester-Torrington vacancies have increased the most.

The increase in the number of vacancies does not indicate that there has been overbuilding of new homes and apartments. Rather it is a correction of the shortages which existed during the war and postwar years; the current situation appears more normal.

Although some of the existing vacancies are in less desirable housing, excessive construction in the future would cause a continued rise in vacancies with better quality dwellings becoming available. If this happened, it would tend to check the rise in rental charges and reduce the need for the construction of new homes and apartments.

Building

In the third quarter, total Connecticut building contract awards dropped from their record second quarter level but remained above the same periods of 1957 and 1958. Residential awards followed a similar pattern. Non-residential awards, however, fell relatively more—to below the year ago level.

Contracts for 13,600 housing units were awarded in the first nine months of 1959 in Connecticut. The total for the year should be about 16,500 which would put 1959 ahead of 1957 and 1958 but below 1950, 1952, 1954 and 1956.

Nationally, the picture is somewhat different. Federal officials expect that 1959 will be second only to 1950, a record year. For this year, 1.3 million housing starts have been predicted compared with 1.4 million in 1950. Because of scarce mortgage money and high interest rates, housing starts may fall as low as 1.1 million in 1960; .1 million below the 1950-59 average.

A few Connecticut industries which make home furnishings and fixtures will be affected by a nationwide decrease in housing starts. However, since such a small portion of Connecticut manufacturing is involved, the housing decline will have little effect on the general business improvement expected for 1960.

(Continued on page 60)

When budgeting
PARKING LOT
expenditures, include
Jennite J-16®
The Double-the-Life pavement sealer. Specified by engineers, recommended by leading contractors.
Also ask for free booklet "Parking Techniques" showing suggested layouts.
COPELAND COMPANY, INC.
(exclusive distributors)
381 State St. North Haven, Conn.
Telephone CHestnut 8-4479

PRODUCTS AND SERVICES

THIS department, formerly listing only products made in Connecticut (from 1937 through 1959) is now available for listing not only products made in the state but also services available to industry through management, technical, research or other service organizations located in Connecticut.

Listing rate, $6.00 per listing for 12 monthly insertions, effective with the February 1960 issue. Listings are payable annually, in advance, or within 30 days after their first insertion.

Abrasives
Fuller Merriam Company The (Vitrified, Resinoid Bonded Grinding Wheels & Segments) West Haven

Absorbents
Nielsen & Sons Inc. John R (oil water and grease) South Windsor

Accounting Forms
Baker-Goodyear Co The Branford

Accounting Machines
Underwood Corporation Bridgeport

Adding Machines
Underwood Corporation Bridgeport

Adhesives
Polymer Industries Inc Springdale
Raybestos Division Raybestos-Manhattan Inc Bridgeport

Advertising Mats
Ads Inc Div CSW Plastic Types Inc (plates, services) Rocky Hill
Lockwood Sons Inc Wm H Hartford

Advertising Plates
Lockwood Sons Inc Wm H Hartford

Advertising Specialties
H C Cook Co The Ansonia

Air Compressors
Spencer Turbine Co The Hartford

Air-Conditioning
Norwalk Airconditioning Corp South Norwalk

Air Conditioning Products
Dunham-Bush Inc West Hartford

Air Ducts
Wiremold Co The (Retractable) Hartford

Air Heaters—Direct Fired
Peabody Engineering Corporation Stamford

Air Impellers
The Torrington Manufacturing Co Torrington

Aircraft
Sikorsky Aircraft Division United Aircraft Corporation (helicopters) Bridgeport

Aircraft Accessories
Chandler Evans Div Pratt & Whitney Co Inc (Piston and Jet Engine Accessories—Carburetors, Fuel Controls, Afterburner Regulators, Pumps, Servomechanisms and Protek Plugs) West Hartford
Consolidated Controls Corp Bethel
Fenn Mfg Co The (Hardened and Ground Gear assemblies) Newington
Gabb Special Products Inc (filler caps—pressure fuel servicing systems) Windsor Locks
Hamilton Standard Div United Aircraft Corp (propellors and other aircraft equipment) Windsor Locks

Aircraft Engine Timing Tools
Gabb Special Products Inc Windsor Locks

Aircraft Engine Details
Hartford Machine Screw Co Div of Standard Screw Co Hartford
New Haven Trap Rock Co The Machine Products Div North Branford

Aircraft Engines
Lycoming Division Avco Canufacturing Corp Stratford
Pratt & Whitney Aircraft Div United Aircraft Corp (aircraft) East Hartford

Aircraft Fasteners
Bland Buner Co The Thread Products Div Hartford
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Scovill Manufacturing Company (PANELOC Aircraft Fasteners) Waterbury

Aircraft Instruments
Gorn Electric Company Inc Stamford

Aircraft—Repair & Overhaul
Airport Department Pratt & Whitney Aircraft Division Rentschler Field East Hartford

Aircraft Studs and Bolts
Hartford Machine Screw Co Div of Standard Screw Co Hartford

Aircraft Test Equipment
United Manufacturing Co Division of The W L Maxson Corp Hamden

Alumilite Aluminum Sheets
Leed Co The H A Hamden

Aluminum Awnings
Norlee Aluminum Prod Corp Bloomfield

Aluminum Bronze Castings
Knapp Foundry Company Inc Guilford

Aluminum Castings
Eastern Malleable Iron Company The Naugatuck
Newton-New Haven Co West Haven

Aluminum Die Castings
Mt Vernon Die Casting Corporation Stamford
Stewart Die Casting Div. Stewart-Warner Corp. Bridgeport

Aluminum Extrusions
Bridgeport Brass Company Bridgeport

Aluminum Forgings
Bridgeport Brass Company Bridgeport
Consolidated Industrics Inc West Cheshire
Scovill Manufacturing Company Waterbury

Aluminum Ingots
Lapides Metals Corp New Haven

Aluminum Sand Castings
Bridgeport Deoxidized Bronze Corp Bridgeport

Aluminum—Sheet and Rod
Scovill Manufacturing Company Waterbury

Aluminum—Sheets & Coils
United Smelting & Aluminum Co Inc New Haven

Aluminum Windows
Norlee Aluminum Prod Corp (combination and prime) Bloomfield

Ammunition
Winchester-Western Div Olin Mathieson Chemical Corp New Haven

Anodic Coating
Fenn Mfg Co The (Dow 17) Newington

Anodizing
Aluminum Finishing Co. Bridgeport
Leed Co The H A Hamden

Anodizing Equipment
Enthone Inc New Haven

Asbestos
Auburn Manufacturing Company The (gaskets, packings, wicks) Middletown

Asarcon Bronze
Derby Castings Company, The Seymour
Knapp Foundry Company Inc (bushing & bearing stock) Guilford

Assemblies—Small
Barnes Co The Wallace Div Associated Spring Corp Bristol
Greist Manufacturing Co The New Haven
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Stanley Humason Inc Forestville
J H Sessions & Son Bristol

Audio-Visual Equipment
Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors; 35mm filmstrip and sound slide film projectors) Plainville

Automatic Buffing & Polishing Machines
Harper Buffing Machine Company The East Hampton

Auto Cable Housing
Wiremold Company The Hartford

Automatic Assembly Machines
Sperry Products Inc Danbury

Automatic Control Instruments
Bristol Co The (temperature, pressure, flow, humidity, time) Waterbury

Automobiles—Children's
Powercar Company Mystic

Automotive Bodies
Metropolitan Body Company Bridgeport

Automotive Parts
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co (automobile thermostats) Milford
Eis Manufacturing Co (Hydraulic and Mechanical) Middletown
Raybestos Division of Raybestos-Manhattan Inc (Brake Lining, Lined Brake Shoes, Clutch Facings, Automatic Transmission Parts, Fan Belts, Radiator Hose and Miscellaneous Rubber) Bridgeport
Terryville Mfg Co The (stampings for automotive parts) Terryville

Automotive & Service Station Equipment
Scovill Manufacturing Company (Canned Oil Dispensers) Waterbury

Automotive Tools
Eis Manufacturing Company Middletown

Bag Sealing Machines
Derby Sealers Inc Derby

Bakelite Moldings
Watertown Mfg Co The Watertown

Balls
Abbott Ball Co The (steel bearing and burnishing) Hartford
Hartford Steel Ball Co The (steel bearing and burnishing, brass, bronze, monel, stainless aluminum) Hartford
Kilian Steel Ball Corp The Hartford
New Departure Div of General Motors (steel and steel alloys) Bristol
Pioneer Steel Ball Company Inc (steel for bearings, burnishing, graining; also brass, bronze and stainless) Unionville
Superior Steel Ball Co Inc (steel bearings & burnishing material) New Britain

Banbury Mixers
Farrel-Birmingham Company Inc Ansonia

Barrels
Abbott Ball Co The (burnishing and tumbling) Hartford
Enthone Inc (tumbling) New Haven
Esbec Barrel Finishing Corp (burnishing & tumbling) Byram
Hartford-Steel Ball Co The (tumbling) Hartford
King Co Alfred B (tumbling and plating) North Haven

Baskets—Wire
Rolock Inc Fairfield

Bearings
Barden Corporation The (ball) Danbury
Fafnir Bearing Co (ball) New Britain
Marlin-Rockwell Corporation Plainville
New Departure Div of General Motors (ball) Bristol
Norma-Hoffman Bearings Corp (ball and roller) Stamford
Torrington Co The Torrington

Bellows Assemblies
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co Milford

Bellows—Metallic
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co Milford

Bells
Bevin Brothers Mfg Co East Hampton
N N Hill Brass Co The East Hampton

Belt Fasteners
Saling Manufacturing Company (patented self-aligning) Unionville

Belting
Hartford Belting Co Hartford
Russell Mfg Co (High Speed Endless, Laminated Rubber, Roll Stock all types) Middletown

Bends—Pipe or Tube
National Pipe Bending Co The New Haven

Bicycle Sundries
Torrington Co The Torrington

Blacking Salts for Metals
Du-Lite Chemical Corp Middletown
Enthone Inc New Haven
Mitchell-Bradford Chemical Co Milford

Black Oxide Finishing
Black Oxide Inc New Britain

Black Oxide Treatment
Bennett Metal Treating Co The Elmwood

Blades
Capewell Manufacturing Company Metal Saw Division (hack saw and band saw) Hartford

Blocks
Howard Company (cupola fire clay) New Haven

Blower—Centrifugal Type
Spencer Turbine Co., The Hartford

Blower Fans
Colonial Blower Company Plainville
Spencer Turbine Co The Hartford

(Advt.)

CONNECTICUT PRODUCTS AND SERVICES

Blower Systems
Colonial Blower Company — Plainville
Ripley Co — Middletown
Ventilating Supplies Inc — Plainville

Blower Wheels
Torrington Manufacturing Company The — Torrington

Blueprints and Photostats
Joseph Merritt & Co — Hartford

Boilers
Bigelow Co The — New Haven

Bolts and Nuts
Clark Brothers Bolt Co — Milldale
Hartford Machine Screw Company Div of Standard Screw Co — Hartford
Torrington Co The — Torrington

Boring Tools
Atrax Company The (solid carbide) — Newington

Bottles
Feldman Glass Co. The — New Haven

Box Board
Bird & Son Inc — New Britain
Continental Can Co., Boxboard and Folding Carton Division — Montville
Federal Paper Board Co Inc — Montville, New Haven & Versailles
Lydall & Foulds Paper Co The — Manchester
New Haven Board & Carton Co The — New Haven
Robertson Paper Box Co — Montville

Boxes
Bird & Son Inc (corrugated, solid fibre, cleated containers) — New Britain
Connecticut Container Corporation — New Haven
Continental Can Co., Fibre Drum and Corrugated Box Division — Portland
Merriam Mfg Co (steel cash, bond, security, fitted tool and tackle boxes) — Durham
Middletown Mfg Co (metal) — Middletown
Warner Bros Co The (Acetate, Paper, Acetate and Paper Combinations, Counter Display, Setup) — Bridgeport

Boxes and Crates
City Lumber Co of Bridgeport Inc The — Bridgeport

Boxes—Folding
Leshine Carton Co — Branford

Boxes—Metal
Durham Mfg Co. — Durham
Merriam Mfg Co (Bond and Security, Cash and Utility, Personal Files and Drawer Safes) — Durham
Scovill Manufacturing Company (aluminum, brass, bronze, copper-cosmetic, drug, hair pin, ointment, pill, powder, rouge, vanity) — Waterbury

Boxes—Paper—Folding
Atlantic Carton Corp — Norwich
Bridgeport Paper Box Co — Bridgeport
Carpenter-Hayes Paper Box Co Inc — East Hampton
Continental Can Co., Boxboard and Folding Carton Division — Montville
Curtis & Sons Inc S — Sandy Hook
Folding Cartons Incorporated (paper, folding) — Versailles
Mills Inc H J — Bristol
National Folding Box Co Div Federal Paper Board Co Inc (paper folding) — New Haven and Versailles
New Haven Board & Carton Co The — New Haven
Robertson Paper Box Co — Montville
Warner Bros Co The — Bridgeport

Boxes—Paper—Setup
Bridgeport Paper Box Co — Bridgeport
Heminway Corporation The — Waterbury
Mills Inc H J — Bristol
Strouse Adler Company The — New Haven
Warner Bros Co The — Bridgeport

Brake Cables
Eis Manufacturing Co — Middletown

Brake Linings
Raybestos Division of Raybestos-Manhattan Inc (Automotive and Industrial) — Bridgeport
Russell Mfg Co (all types, Fused Fabric, Durak, Wireback, Extruded) — Middletown

Brake Service Parts
Eis Manufacturing Co — Middletown

Brass & Bronze
American Brass Co The (sheet, wire, rods, tubes) — Waterbury
Bridgeport Rolling Mills Company (coil, sheet, strip) — Bridgeport
Bristol Brass Corp The (sheet, wire, rods) — Bristol
Chase Brass & Copper Co — Waterbury
Miller Company The (phosphor bronze and brass in sheets, strips, rolls) — Meriden
Plume & Atwood Mfg Co The (sheet, wire, rod) — Thomaston
Scovill Manufacturing Company — Waterbury
Tinsheet Metals Co The (sheets and rolls) — Waterbury
Western Brass Mills Div of Olin Mathieson Chemical Corp (sheet, strip) — New Haven

Brass & Bronze Ingot Metal
Mitchell Smelting & Refining Co Inc — Botsford
Plume & Atwood Mfg Co The — Thomaston
Whipple and Choate Company The — Bridgeport

Brass, Bronze, Aluminum Castings
Derby Castings Company, The — Seymour
Victors Brass Foundry Inc — Guilford

Brass Goods
American Brass Company The — Waterbury
Plume & Atwood Mfg Co The (to order) — Waterbury
Rostand Mfg Co. The (Ecclesiastical Brass Wares) — Milford
Scovill Manufacturing Company (to order) — Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp — New Haven

Brass Mill Products
American Brass Company The — Waterbury
Chase Brass & Copper Co — Waterbury
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company — Waterbury
Seymour Manufacturing Co. The — Seymour
Western Brass Mills Div Olin Mathieson Chemical Corp — New Haven

Brick-Building
Donnelly Brick Co The — New Britain
Stiles Corp subsidiary of Plasticrete Corp — North Haven

Bricks—Fire
Howard Company — New Haven
Mullite Works Refractories Div H. K. Porter Co Inc — Shelton

Bright Wire Goods
Sargent & Company (Screw Eyes, Screw Hooks, Cup Hooks, Hooks and Eyes, C H Hooks) — New Haven

Broaching
Hartford Special Machinery Co The — Hartford

Bronze & Aluminum Castings
Knapp Foundry Company Inc (rough or machined) — Guilford

Bronze Sand Castings
Bridgeport Deoxidized Bronze Corp — Bridgeport

Brooms—Brushes
Fuller Brush Co The — Hartford

Buckles
B Schwanda & Sons — Staffordville
Hawie Mfg Co The — Bridgeport
North & Judd Manufacturing Co. — New Britain
Patent Button Co The — Waterbury
Risdon Manufacturing Co John M. Russell Div — Naugatuck

Buffing & Polishing Compositions
Apothecaries Hall Company Division
The Hubbard Hall Chemical Company — Waterbury
Lea Mfg Co — Waterbury

Building Materials
City Lumber Co of Bridgeport Inc — Bridgeport

Burners
Plume & Atwood Mfg Co The (kerosene oil lighting) — Thomaston

Burners—Automatic
Peabody Engineering Corporation — Stamford

Burners—Coal and Oil
Peabody Engineering Corporation (Combined) — Stamford

Burners—Gas
Peabody Engineering Corporation (Blast Furnace) — Stamford

Burners—Gas and Oil
Peabody Engineering Corporation (Combined) — Stamford

Burners—Refinery
Peabody Engineering Corporation (For Gas and Oil) — Stamford

Burnishing
Abbott Ball Co The (Burnishing Barrels and Burnishing Media) — Hartford
Pioneer Steel Ball Company Inc (balls, cones, other metallic shapes) — Unionville

Burs
Atrax Company The (carbide) — Newington
Pratt & Whitney Co Inc (carbide and HSS) — West Hartford

Business Forms
Connecticut Manifold Forms Co. The — West Hartford

Buttons
B Schwanda & Sons — Staffordville
Frank Parizek Manufacturing Co The — Putnam
Scovill Manufacturing Company (Uniform and Tack Fasteners) — Waterbury
Waterbury Companies Inc (Uniform and Fancy Dress) — Waterbury

Cabinet Work
Hartford Builders Finish Co — Hartford

Cable—Asbestos Insulated
Rockbestos Products Corp — New Haven

Cable-Interlocked Armor
General Electric Company — Bridgeport

Cable—Nonmetallic Sheathed
General Electric Company — Bridgeport

Cages
Andrew B. Hendryx Co The (bird and animal) — New Haven

Cams
American Cam Company Inc — Hartford
Hartford Special Machinery Co The — Hartford
Rowbottom Machine Company Inc — Waterbury

Cams, 2 Dimensional
Mallory Industries, Inc — West Hartford
Parker-Hartford Corporation — Hartford

Cams, 3 Dimensional
Mallory Industries, Inc — West Hartford
Parker-Hartford Corporation — Hartford

Capacitors
Electro Motive Mfg Co Inc. The (mica & trimmer) — Willimantic

Carbide Drawing Dies
State Products Co (eyelet special shape dies) — Oakville

Carbide Shape Dies
Thomaston Tool & Die Co (any form) — Thomaston

Carbide Tools
Atrax Company The (solid) — Newington
Precision Tool & Die Co — Waterbury

Carbon Pile Type Resistors
Engineered Metals — Manchester

Card Clothing
Standard Card Clothing Co The (for textile mills) — Stafford Springs

Card Indexes
Wassell Organization Inc — Westport

Carpenter's Tools
Sargent & Company (Planes, Squares, Plumb Bobs, Bench Screws, Clamps and Saw Vices) — New Haven

Carpets and Rugs
Bigelow-Sanford Carpet Co — Thompsonville

Carton Closure Equipment
Better Packages Inc ("Tape-O-Matic," "Better Pack") — Shelton

Casters
Bassick Company The (Industrial and General) — Bridgeport

Castings
Connecticut Foundry Co (grey iron) — Rocky Hill
Connecticut Malleable Castings Co. (malleable (iron castings) — New Haven
Ductile Iron Foundry Inc — Stratford
Eastern Malleable Iron Company The (malleable iron, metal and alloy) — Naugatuck
Farrel-Birmingham Company Inc (Meehanite Nodular Iron, Steel) — Ansonia
H R Engineering Laboratories Inc (centrifugal, steel mold) — East Haddam
Hartford Electric Steel Corp The (carbon, low alloy and stainless steel castings) — Hartford
Malleable Iron Fittings Co (malleable iron and steel) — Branford
McLagon Foundry Co. (grey iron) — New Haven
Newton-New Haven Co (zinc and aluminum) — West Haven
Nutmeg Crucible Steel Co (steel) — Branford
Plainville Casting Company (gray, alloy and high tensile irons) — Plainville
Philbrick-Booth & Spencer Inc — Hartford
Producto Machine Company The — Bridgeport
Scovill Manufacturing Company (Brass & Bronze) — Waterbury
Turner & Seymour Mfg Co The (gray iron, semi steel and alloy) — Torrington
Union Mfg Co (grey iron & semi steel — New Britain
Waterbury Foundry Company The (highway & sash weights) — Waterbury
Wilcox Crittenden & Co Inc (gray iron and brass) — Middletown (Advt.)

Castings—Investment
Arwood Precision Casting Corp — Groton

Cements—Refractory
Mullite Works Refractories Div H K Porter Co Inc — Shelton

Centerless Grinding
Brown Manufacturing Co. — New Britain
New England Centerless Grinding, Inc. — West Hartford
Winsted Centerless Co — Winsted

Centers
Ready Tool Co The (anti friction, carbide tipped, high speed) — Stratford

Centrifugal Pumps
Hamco Inc (gasoline or electric driven) — New Haven

Cermets
Russell Mfg Co (for missiles, and for friction materials) — Middletown

Chain
Risdon Manufacturing Co John M Russel Div — Naugatuck
Turner and Seymour Mfg Co The (weldless, sash, jack, safety, furnace, universal, lion and cable) — Torrington

Chain-Beaded
Auto-Swage Products Inc — Shelton
Bead Chain Mfg Co The — Bridgeport

Chain—Power Transmission and Conveying
Whitney Chain Company — Hartford
Whitney Chain Co The Subsidiary of Foote Bros Gear and Machine Corp — Hartford

Chairs
The Hitchcock Chair Company — Riverton

Chemical Manufacturing
Carwin Company The — North Haven

Chemicals
Apothecaries Hall Company Division The Hubbard Hall Chemical Company — Waterbury
Axton-Cross Co — Shelton
Carwin Company The — North Haven
Macalaster Bicknell Company — New Haven
MacDermid Incorporated — Waterbury
Naugatuck Chemical Division United States Rubber Co — Naugatuck
New England Lime Company — Canaan
Pfizer & Co Inc Chas — Groton
United States Chemical Corp (maintenance and powdered hand soap, floor waxes, cleaners, disinfectants, fuel additives) — New Haven

Chemicals—Agriculture
Naugatuck Chemical Division United States Rubber Co (insecticides, fungicides, weed killers) — Naugatuck

Chemists—Analytical and Consulting
Bridgeport Testing Laboratory Inc — Bridgeport

Christmas Light Clips
Foursome Manufacturing Co — Bristol

Chromium Plating
Chromium Corp of America — Waterbury
Chromium Process Company The — Shelton

Chucks
Cushman Chuck Co The — Hartford
Jacobs Manufacturing Co The — West Hartford
Jacobs Manufacturing Co The (drill chucks lathe collet chucks and arbors) — West Hartford
Skinner Chuck Co The — New Britain
Union Manufacturing Company — New Britain

Chucks—Drill
Jacobs Manufacturing Co The — West Hartford

Chucks & Face Plate Jaws
Cushman Chuck Co The — Hartford
Skinner Chuck Co The — New Britain
Union Mfg Co — New Britain

Chucks—Power Operated
Cushman Chuck Co The — Hartford
Skinner Chuck Co The — New Britain
Union Manufacturing Company — New Britain

Clay
Howard Company (Fire Howard "B" and High Temperature Dry) — New Haven

Cleaning Compounds
Enthone Inc (Industrial) — New Haven
MacDermid Incorporated — Waterbury

Clock Mechanisms
Lux Clock Mfg Co The — Waterbury

Clocks
E Ingraham Co The — Bristol
United States Time Corporation The — Waterbury

Clocks—Alarm
Lux Clock Mfg Co The — Waterbury

Clocks—Automatic Cooking
Lux Clock Mfg Co The — Waterbury

Clutches
Snow-Nabstedt Gear Corp The — New Haven

Clutch Facings
Raybestos Division of Raybestos-Manhattan Inc (Molded, Woven, Semi-metallic and Full-metallic) — Bridgeport
Russell Mfg Co (rubber Shock Cord—all sizes and types) — Middletown

Coils—Electric
Bittermann Electric Company — Canaan
Rowley Spring Co. Inc., The (Air-wound for television and electronic industries) — Bristol

Coils—Pipe or Tube
National Pipe Bending Co The — New Haven
Whitlock Manufacturing Co The — Hartford

Cold Molded Electrical Insulation
Meriden Molded Plastics — Meriden

Commercial Heat Treating
A F Holden Company The — West Haven

Commercial Truck Bodies
King Co Alfred B — North Haven
Metropolitan Body Company — Bridgeport

Compacts
Scovill Manufacturing Company (powder and rouge) — Waterbury

Comparators
Pratt & Whitney Co Inc (Electro-limit and Air-O-Limit) — West Hartford

Compressors
Brunner Division of Dunham-Bush Inc (Refrigeration, Air Conditioning and Air Compressors) — West Hartford
Norwalk Company Inc (high pressure air and gas) — South Norwalk

Computers
Reflectone Electronics, Inc. — Stamford
Royal McBee Corp — Hartford

Concrete Products
Plasticrete Corp — Hamden, Hartford, North Haven, Waterbury, Willimantic

Condenser and Heat Exchanger Tubes
Bridgeport Brass Company — Bridgeport
Scovill Manufacturing Company — Waterbury

Cones
Sonoco Products Co (Climax-Lowell Div.) (Paper) — Mystic

Connector
Gorn Electric Co Inc (precision miniature electrical and printed circuit) — Stamford

Construction Equipment Trailers
Kensington Welding & Trailer Co The — Kensington

Consulting Engineers
McNeal J D (Electrical and Electronic) — New Haven
Stanley P. Rockwell Co Inc The (Consulting) — Hartford

Continuous Mill Gages
Pratt & Whitney Co Inc — West Hartford

Contract Machining
Laurel Mfg Co Inc (Precision Production Small Parts) — Plainville
Malleable Iron Fittings Company — Branford

Contract Manufacturers
Fenn Mfg Co The (Precision Machine Work) — Newington
Greist Mfg Co The (metal parts and assemblies) — New Haven
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Merriam Mfg Co (production runs—metal boxes and containers to specifications) — Durham
Plume & Atwood Mfg Co The (metal parts and assemblies) — Thomaston
Scovill Manufacturing Company (metal parts and assemblies) — Waterbury
J H Sessions & Son — Bristol
Torrington Co The — Torrington

Controllers
Bristol Company The — Waterbury
Manning Maxwell & Moore Inc — Stratford

Controls—Remote
Panish Controls (Remote Controls for Marine & Aeronautic Applications) — Bridgeport

Controls—Hydraulic Remote
Sperry Products Inc — Danbury

Converters DC to AC
Electric Specialty Co — Stamford
Safety Electrical Equipment Corp — New Haven

Conveyer Systems
Hayes-Te Equipment Corp Connecticut Conveyor Division (Conveyor Co The) — Unionville
King Co Alfred B — North Haven
Leeds Conveyor Mfg Co The — East Haven
Production Equipment Co — Meriden

Copper
American Brass Corp The (sheet, wire, rods, tubes) — Waterbury
Bristol Brass Corp The (steel) — Bristol
Chase Brass & Copper Co (sheet, rod, wire tube) — Waterbury
Thinsheet Metals Co The (sheet and rolls) — Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp — New Haven

Copper Castings
Knapp Foundry Company Inc — Guilford

Copper Sand Castings
Bridgeport Deoxidized Bronze Corp — Bridgeport

Copper Sheets
American Brass Company The — Waterbury
New Haven Copper Co The — Seymour

Copper Shingles
New Haven Copper Co The — Seymour

Copperware
Bridgeport Brass Company (cooking utensils) — Bridgeport

Copper Water Tube
American Brass Company The — Waterbury

Cord
Russell Mfg Co The (marine & aero shock) — Middletown

Cord Sets—Electric
General Electric Company — Bridgeport
Seeger-Williams Inc — Bridgeport

Cork Cots
Sonoco Products Co (Climax-Lowell Div) — Mystic

Corn Cob Meal
Nielsen & Sons Inc. John R (graded) — South Windsor

Correspondence Files
Wassell Organization Inc — Westport

Corrugated Box Manufacturers
Connecticut Container Corporation — New Haven
Corrugated Containers Inc — Hartford

Corrugated Shipping Cases
Connecticut Container Corporation — New Haven
Continental Can Co. Fibre Drum and Corrugated Box Division — Portland
D L & D Container Corp — New Haven

Cosmetic Containers
Eyelet Specialty Div. International Silver Co. — Wallingford
Plume & Atwood Mfg Co The (metal) — Thomaston
Scovill Manufacturing Company — Waterbury

Cosmetics
J B Williams Co The — Glastonbury

Cotton and Asbestos Wicking
Bland Burner Co The — Hartford

Counting Devices
Veeder-Root Inc — Hartford

Couplings
Scovill Manufacturing Company (hose and tube) — Waterbury

Crushers
Farrel-Birmingham Company Inc (Stone and Ore) — Ansonia

Cushioning for Packaging
Gilman Brothers Co The — Gilman

Cutters
Atrax Company The (solid carbide) — Newington
Hanson-Whitney Co The (thread milling) — Hartford
Mitrametric Co The (ground pinion) — Torrington
Pratt & Whitney Co Inc (Milling Cutters all types carbide and HSS) — West Hartford

Cutting & Creasing Rule
Bartholomew Co H J — Bristol

Data Processing Equipment
Royal McBee Corp — Hartford

Decalcomanias
Sirocco Screenprints — New Haven

CONNECTICUT PRODUCTS AND SERVICES

Deep Drawings
Stanley Pressed Metal — New Britain
Terryville Mfg Co The — Terryville

Deep Hole Drilling & Reaming
Hamden Deep Hole Drilling Co — Hamden

Delayed Action Mechanism
M H Rhodes Inc — Hartford
R W Cramer Company Inc The — Centerbrook

Demineralizers
Crystal Research Laboratories — Hartford

Design
Designers for Business and Industry (product design-appearance) — New Haven

Design & Drafting Service
Smith & Winchester Mfg Co The — South Windham

Diamonds—Industrial
Parsons Diamond Products Inc — West Hartford
Russell Inc RR — Newington

Diamond Tools
Russell Inc RR — Newington

Dictating Machines
Dictaphone Corporation — Bridgeport
Gray Manufacturing Company The — Hartford
SoundScriber Corporation The — New Haven

Die Cast Dies
C & F Tool & Die Corp — Bridgeport

Die Castings
Newton-New Haven Co Inc — New Haven
Stewart Die Casting Div Stewart-Warner Corp — Bridgeport

Die Casting Dies
ABA Tool & Die Co — Manchester
Eastern Machine Screw Corp The — New Haven
Weimann Bros Mfg Co. The — Derby

Die Heads—Self Opening
Eastern Machine Screw Corp The — New Haven
Geometric Tool Division, Greenfield Tap & Die Corp — New Haven

Die Polishing Machinery
Hartford Special Machinery Co The — Hartford

Die Sets
Producto Machine Company The — Bridgeport
Union Mfg Co (precision, steel and semi-steel) — New Britain

Die Sinkers
Pratt & Whitney Co Inc — West Hartford

Dies
Hoggson & Pettis Mfg Co The — New Haven
Mitrametric Co The (ground for gears) — Torrington
Pratt & Whitney Co Inc (Monocone and Duecone Dies) — West Hartford
Pratt & Whitney Co Inc (thread cutting and thread rolling) — West Hartford

Dies & Die Cutting
Douglas Co Geo M — New Haven

Display Containers
National Folding Box Co Div Federal Paper Board Co Inc (folding paperboard) — New Haven and Versailles

Displays—Design & Production
Ad-Craft Displays, Inc. — Bloomfield
Conn-Craft Co. (Plastic) — Waterbury
Stifel & Kufta — New Britain

Display Equipment
Polecats Inc — Old Saybrook

Displays—Metal
Durham Mfg Co The (Designing & Mfg to customers' specifications) — Durham
Merriam Mfg Co (Contract Work to Individual Specifications) — Durham
Parsons Co Inc W A (custom designed) — Durham

Displays—Plastic
Dura Plastics of New York, Inc. — Westport

Door Closers
Sargent & Company — New Haven
Yale & Towne Mfg Co The — Stamford

Doors
Bilco Co The (metal, residential and commercial) — West Haven

Dowel Pins
Allen Manufacturing Co The — Hartford
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corp The — West Hartford
Torrington Co The — Torrington

Drafting Accessories
Joseph Merritt & Co — Hartford

Drawn Shells
Cly-Del Manufacturing Co. — Waterbury

Drill Presses
Townsend Mfg Co The H P — Elmwood

Drilling Machines
Pratt & Whitney Co Inc (Deep Hole) — West Hartford

Drilling and Tapping Machinery
Hartford Special Machinery Co The — Hartford

Drop Forgings
Atwater Mfg Co — Plantsville
Billings & Spencer Co The — Hartford
Consolidated Industries — West Cheshire
Wilcox Crittenden & Co Inc — Middletown

Druggists' Rubber Sundries
Seamless Rubber Company The — New Haven

Duplicating Machines—Automatic
Pratt & Whitney Co Inc — West Hartford

Dust Collectors
Colonial Blower Co — Plainville
Ventilating Supplies Inc — Plainville

Elastic
Russell Mfg Co (rubber shock cord—all sizes and types) — Middletown

Electric Cables
General Electric Company (for residential, commercial and industrial applications) — Bridgeport
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Cord Springs
Bristol Spring Manufacturing Co — Plainville

Electric Cords
General Electric Company — Bridgeport
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Enclosed Switches
Arrow-Hart & Hegeman Electric Co The — Hartford

Electric Eye Control
Ripley Company Inc — Middletown

Electric Fixture Wire
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Hand Irons
Winsted Hardware Mfg Co (trade mark "Durabilt") — Winsted

Electric Heating Elements
Hartford Element Co — Hartford

Electric Insulation
Case Brothers Inc — Manchester
Stevens Paper Mills Inc The — Windsor

Electric Lighting Fixtures
Fan-Craft Mfg Co (residential, church, post lanterns) — Plainville
Plume & Atwood Mfg Co The — Thomaston
Wasley Products Inc — Plainville

Electric Motor Controls
Arrow-Hart & Hegeman Electric Co The — Hartford

Electric Motor Winding
Monarch Electric Co (3 phase industrial motors) — New Britain

Electric Motor Repair
B & J Electric Co — Ansonia

Electric Motors
Electric Specialty Co — Stamford
Iona Manufacturing Company The — Manchester
Monarch Electric Co (Allis Chalmers) — New Britain
Safety Electrical Equipment Corp — New Haven
U S Electrical Motors Inc — Milford
Harvey Hubbell Incorporated — Bridgeport

Electric Switches
Harvey Hubbell, Incorporated — Bridgeport

Electric Time Controls
Cramer Controls Corporation The — Centerbrook

Electric Wire
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Wiring Devices
Arrow-Hart & Hegeman Electric Co The — Hartford
Harvey Hubbell Incorporated — Bridgeport

Electrical Appliances
Iona Manufacturing Company The — Manchester

Electrical Conduit Fittings & Grounding Specialties
Gillette-Vibber Company The — New London

Electrical Connectors
Burndy Corporation — Norwalk

Electrical Control Apparatus
Plainville Electrical Products Co The — Plainville

Electrical Controls
Monarch Electric Co (Allis Chalmers) — New Britain

Electrical Recorders
Bristol Co The — Waterbury

Electrical Relays and Controls
Allied Control Co — Plantsville

Electrical Switchboards
Plainville Electrical Products Co The — Plainville
Pneumatic Applications Co — Simsbury

Electrical Test Equipment
McNeal J D — New Haven

Electrical Wiring Systems
Wiremold Co The — Hartford

Electronic Parts
Patent Button Company The — Waterbury
Prentice Mfg Co The G E (stampings to customers' specifications) — Kensington
Terryville Manufacturing Co (Stampings to customer specifications) — Terryville

Electronics
Beau Electronics — Waterbury
Gray Manufacturing Company the — Hartford
McNeal J D — New Haven
Middletown Mfg Co (metal cabinets, chassis panels, brackets, cases) — Middletown
Ripley Co — Middletown
Sturrup Larabee & Warmers Inc — Middletown
Vinco Electronics Corporation — New Haven

Electroplating
Giering Metal Finishing Inc — Hamden
National Sherardizing & Machine Co — Hartford
Waterbury Plating Company — Waterbury

Electroplating—Equipment & Supplies
Apothecaries Hall Company Division — Waterbury
Enthone Inc — New Haven
Hubbard Hall Chemical Company The — Waterbury
Lea Manufacturing Co The — Waterbury
MacDermid Incorporated — Waterbury

Electroplating Processes & Supplies
Enthone Inc — New Haven

Electrotypes
Barnum-Hayward Electrotype Co Inc — New Haven
Lockwood Sons Inc Wm H — Hartford
New Haven Electrotype Div Electrographic Corp — New Haven

Elevators
Eastern Elevator Co (passenger and freight) — New Haven
General Elevator Service Co — Hartford

Enameling
Giering Metal Finishing Inc — Hamden
Waterbury Plating Company — Waterbury

Enamels & Lacquers
Dobbs Chemical Co The (industrial finishes to customers' specifications) — New Haven

Engineering
Technical Design and Development Co Inc (design and drafting) — Milford

End Milling Cutters
Pratt & Whitney Co Inc (carbide and HSS) — West Hartford

End Mills
Atrax Company The (solid carbide) — Newington

Engraving—Plastic and Nonferrous Metals
Conn-Craft Co. — Waterbury
New England Engraving Company Div. of Dura Plastics of New York, Inc. — Westport
Salisbury Products Inc — Lakeville

Envelopes
Curtis 1000 Inc — Hartford
United States Envelope Company Hartford Division — Hartford

Excelsior
Nielsen & Sons Inc John R — South Windsor

Extractors—Tap
Walton Company The — West Hartford (Advt.)

Extruders and Accessories
Davis Electric Company (Ram Type Teflon Extruder) Wallingford
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic

Eyelets
American Brass Co The Waterbury
Cly-Del Manufacturing Waterbury
Mark Eyelet & Stamping Co (small—metal stampings) Wolcott
Platt Bros & Co The Waterbury
Plume & Atwood Mfg Co The Thomaston
Scovill Manufacturing Company Waterbury
Stevens Co Inc Waterbury
Waterbury Companies Inc Waterbury

Eyelets, Ferrules and Wiring Terminals
American Brass Company The Waterbury
Waterbury Companies Inc Waterbury

Eyelet Machine Products
American Brass Company The Waterbury
Ball & Socket Mfg Co the West Cheshire
Cold Forming Mfg Co The Waterbury
Platt Bros & Co The Waterbury
Plume & Atwood Mfg Co The Thomaston
Stevens Co Inc Waterbury
Waterbury Companies Inc Waterbury

Fabricators
King Co Alfred B North Haven
Scovill Manufacturing Company (aluminum, brass, bronze, copper, steel) Waterbury

Fabrics
Russell Mfg Co (Teflon, Moulded Fabric, Bearing Surfaces, High Temperature Fabrics) Middletown

Fan Blades
Torrington Manufacturing Company The Torrington

Fancy Dress Buttons and Buckles
Waterbury Companies Inc Waterbury

Fans—Electric
General Electric Company Bridgeport
Monarch Electric Co (attic, industrial and ventilating) New Britain

Fans—Industrial
Ventilating Supplies Inc Plainville

Fasteners—Aircraft
Scovill Manufacturing Company (PANELOC Aircraft Fasteners) Waterbury

Fasteners—Industrial
Torrington Co The Torrington

Fasteners—Laundry Proof
Scoville Manufacturing Company (GRIPPER snap fasteners) Waterbury

Fasteners—Slide & Snap
Scovill Manufacturing Company (GRIPPER zippers and GRIPPER snap fasteners) Waterbury

Felt
Auburn Manufacturing Company The (mechanical, cut parts) Middletown
Drycor Felt Company (paper makers and industrial) Staffordville

Felt—All Purpose
American Felt Co (Mill & Cutting Plant) Glenville
Chas W House & Sons Inc (Mills & Cutting Plant) Unionville

Fiber-glass Fabrication
Davis Co The E J West Haven

Fibre Board
Bird & Son Inc New Britain
Case Brothers Inc Manchester
Colonial Board Company Manchester
C H Norton Co The North Westchester
Stevens Paper Mills Inc The Windsor

File Cards
Standard Card Clothing Co The Stafford Springs

Filing Equipment
Wassell Organization Inc Westport

Filters—Fluid
Cuno Engineering Corp The Meriden

Finger Nail Clippers
H C Cook Co The Ansonia

Firearms
Colt's Patent Fire Arms Mfg Co Inc Hartford
Junior Screw Machine Products Inc West Haven
Marlin Firearms Co The New Haven
O F Mossberg & Sons Inc New Haven
Winchester-Western Div Olin Mathieson Chemical Corp New Haven

Fire Alarm Systems
Fire-Lite Alarms Inc New Haven

Fire Hose
Fabrics Fire Hose (municipal and industrial) Sandy Hook

Fireplace Goods
John P Smith Co The (screens) New Haven

Fireworks
M Backes' Sons Inc Wallingford

Fishing Tackle
H C Cook The Ansonia

Flashlights
Bridgeport Metal Goods Mfg Co Bridgeport

Flat Springs
Bristol Spring Manufacturing Co Plainville
Gemco Manufacturing Co Inc Southington

Flexible Shaft Machines
Pratt & Whitney Co Inc West Hartford

Float Switches
Gorn Electric Co Inc (for aircraft and commerical use) Stamford

Floor & Ceiling Plates
Beaton & Cadwell Mfg Co The New Britain

Fluorescent Lighting Equipment
Fullerton Manufacturing Corp Norwalk
Vanderman Manufacturing Co The Willimantic
Wiremold Company The Hartford

Foam Rubber
Armstrong Rubber Company The West Haven

Forgings
Atwater Manufacturing Company Plantsville
Billings & Spencer Company Hartford
Bridgeport Hardware Mfg Corp The Bridgeport
Capewell Manufacturing Company Hartford
Chase Brass & Copper Co Waterbury
Consolidated Industries Inc West Cheshire
Hoppenstall Co (all kinds and shapes) Bridgeport
Scovill Manufacturing Company (Non-ferrous) Waterbury

Foundries
Connecticut Malleable Castings Co (malleable iron castings) New Haven
Derby Castings Company, The Seymour
Ductile Iron Foundry Inc Stratford
Farrel-Birmingham Company Inc (Iron and Steel) Ansonia
Hartford Electric Steel Corp The Hartford
Malleable Iron Fittings Co (Malleable Iron and Steel Castings) Branford
Plainville Casting Company (gray, alloy and high tensile irons) Plainville
Producto Machine Company The Bridgeport
Smith & Winchester Mfg Co The South Windham
Turner & Seymour Mfg Co The (gray, iron, semi steel and alloy) Torrington
Union Mfg Co (gray iron & semi steel) New Britain
Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) Middletown

Fountain Pens and Mechanical Pencils
Waterman Pen Company Inc Seymour

Foundry Riddles
John P Smith Co The New Haven

Four Slide Forms
Peck Spring Co Plainville

Frames—Hack Saw
Thompson & Son Co The Henry G New Haven

Fuel Oil Pump and Heater Sets
Peabody Engineering Corporation Stamford

Furnaces
Norwalk Airconditioning Corp South Norwalk

Gage Blocks
Pratt & Whitney Co Inc (Alloy steel and Carbide, Hoke and USA) West Hartford

Galvanizing
Malleable Iron Fittings Co Branford
Wilcox Crittenden & Co Inc Middletown

Gaskets
Auburn Manufacturing Company The (from all materials) Middletown
Raybestos Division of Raybestos-Manhattan Inc Bridgeport

Gaskets—Metallic
Laminated Shim Company Inc Glenbrook

Gaskets—Insulation
American Felt Co Glenville

Gas Range Conversion Burner
Holyoke Heater Corp of Conn Inc Hartford

Gas Scrubbers, Coolers and Absorbers
Peabody Engineering Corporation Stamford

Gauges
Bristol Co The (pressure and vacuum-recording automatic control) Waterbury
Helicoid Gage Division American Chain & Cable Co The (pressure and vacuum) Bridgeport
Manning Maxwell & Moore Inc Stratford
New Haven Trap Rock Co The Machine Products Div (Johan Universal and Special Purpose Gauge) North Branford
Pratt & Whitney Co Inc (Precision Measurement all types) West Hartford

Gears
Mitrametric Co The (blanked fine pitch) Torrington

Gears and Gear Cutting
Farrel-Birmingham Company Inc Ansonia
Fenn Mfg Co The Newington
Hartford Special Machinery Co The Hartford
United Gear & Machine Co Suffield

Generators
Hamco Inc (electric, portable, gasoline driven) New Haven
Safety Electrical Equipment Corp New Haven

Glass Blowing
Macalaster Bicknell Company New Haven

Glass Containers
Feldman Glass Co. The New Haven

Glass Cutters
Fletcher-Terry Co The Forestville

Grinding
Farrel-Birmingham Company Inc (Roll and Cylindrical) Ansonia
Hartford Special Machinery Co The (gears, threads, cams and splines) Hartford
Horberg Grinding Industries Inc (Precision custom grinding; centerless, cylindrical, surfaces, internal and special) Bridgeport
K-F & D Mfg Company The (Contour and Precision) Manchester

Grinding Heads—Internal
Pratt & Whitney Co Inc (Pneumatic, High Speed) West Hartford

Grinding Machines
Farrel-Birmingham Company Inc (Roll) Ansonia
Pratt & Whitney Co Inc (Surface, Die, Gear and Cutter Grinders) West Hartford
Rowbottom Machine Company Inc (cam) Waterbury

Grinding Wheels
Fuller Merriam Company The West Haven

Grommets
American Brass Company The Waterbury
Plume & Atwood Mfg Co The Waterbury

Hack and Band Saw Blades
Capewell Manufacturing Co The Hartford

Hair Hygiene Preparations
Parker Herbex Corporation Stamford

Hammers—Carpenters and Machinists
Capewell Manufacturing Company Hartford

Hand Tools
Billings and Spencer Company (wrenches sockets and shop tools) Hartford
Bridgeport Hardware Mfg Corp The (screw drivers, wrenches, nail pullers, box & crate openers, pliers, saws, trowels & special forgings) Bridgeport

Hardened and Ground Parts
Hartford Machine Screw Company Div of Standard Screw Co Hartford

Hardness Testers
Wilson Mechanical Instrument Div American Chain & Cable Company Inc Bridgeport

Hardware
Bassick Company The (Automotive) Bridgeport
City Lumber Co of Bridgeport Inc Bridgeport
Gordon Associates Derby
Harlock Products Corp New Haven
Sargent & Company New Haven
Wilcox Crittenden & Co Inc (marine heavy and industrial) Middletown
Yale & Towne Mfg Co The Stamford

Hardware—Marine & Bus
Rostand Mfg Co The Milford

Hardware—Trailer Cabinet
Excelsior Hardware Co The Stamford

Hardware, Trunk & Luggage
Corbin Cabinet Lock Div American Hardware Corp New Britain
J H Sessions & Son Bristol
Yale & Towne Mfg Co The Stamford

Hat Machinery
Doran Bros Inc Danbury

Health Surgical & Orthopedic Supports
Berger Brothers Company The (custom made for back, breast and abdomen) New Haven

Heat Elements
Electro-Flex Heat Inc Hartford
Safeway Heat Elements Inc (woven wire resistance type) Middletown

Heat Exchangers
Whitlock Manufacturing Co The Hartford

Heat Sealing—Electronic
Berger Bros (vinyl-polyethylene) New Haven

Heat Treating
Bennett Metal Treating Co The — Elmwood
Commercial Metal Treating Co — Bridgeport
Hartford Machine Screw Company — Hartford
New Britain-Gridley Machine Division The New Britain Machine Co — New Britain
New Haven Heat Treating Co Inc — New Haven
Skene Co Inc The William A (metals) — Bridgeport
Skinner Chuck Co The — New Britain
Stanley P Rockwell Co Inc The — Hartford (Advt.)

Heat-Treating Equipment
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Bauer & Company Inc — Hartford
Rolock Inc (Retorts, Muffles, etc) — Fairfield
Stanley P Rockwell Co Inc The (commercial) — Hartford

Heat Treating Fixtures
Rolock Inc (Trays, Baskets, etc.) — Fairfield
Wiretex Mfg Co Inc — Bridgeport

Heat Treating Salts and Compounds
Mitchell-Bradford Chemical Co — Milford

Heaters—Electric
General Electric Company — Bridgeport

Heating
Dunham-Bush, Inc. — West Hartford

Heating and Cooling Coils
G & O Manufacturing Co — New Haven

Heating Elements
Hartford Element Co — Hartford

Heavy Chemicals
Naugatuck Chemical Division United States Rubber Co (sulphuric, nitric and muriatic acids and aniline oil) — Naugatuck

Heavy Machinery
Smith & Winchester Mfg Co The — South Windham

Hex-Socket Screws
Allen Manufacturing Company The — Hartford
Bristol Company The — Waterbury
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corp The — West Hartford

High Frequency Alternators
Electric Specialty Co — Stamford
Safety Electrical Equipment Corp — New Haven

Highway Guard Rail Hardware
Malleable Iron Fittings Co — Branford

Hinges
Homer D Bronson Company — Beacon Falls

Hobs and Hobbings
ABA Tool & Die Co — Manchester
Pratt & Whitney Co Inc (Die and Thread milling) — West Hartford

Hobs
Hanson-Whitney Co The (fine pitch gear) — Hartford

Hoists and Trolleys
Union Mfg Company — New Britain

Honing
K-F & D Mfg Company The — Manchester

Hose Fittings
Scovill Manufacturing Company — Waterbury

Hose—Flexible Metallic
American Brass Co
American Metal Hose Branch — Waterbury

Hose Supporter Trimmings
Hawie Mfg Co The (So-Lo Grip Tabs) — Bridgeport

Hospital & Rehabilitation Equipment
Polecats Inc — Old Saybrook

Hydraulic Brake Fluids
Eis Manufacturing Co — Middletown

Hypodermic Needles
Roehr Products Company — Waterbury

Impregnating
American Metaseal Inc (metal, wood etc.) — Hamden

Industrial Chrome Plating
Mirror Polishing & Buffing Co — Waterbury

Industrial Displays
Sansone Co S Frederick (Designers Builders and Counselors) — Short Beach

Industrial Finishes
Chemical Coatings Corporation — Rocky Hill

Inks
Waterman Pen Company Inc — Seymour

Insecticides
American Cyanamid Company — Waterbury

Instalment Payment Books
Wassell Organization Inc — Westport

Insulated Wire & Cable
General Electric Company (for residential commercial and industrial applications) — Bridgeport
Kerite Company The — Seymour

Insulated Wire & Cable Machinery
Davis Electric Company — Wallingford

Instruments
Bristol Company The — Waterbury
Manning Maxwell & Moore Inc — Stratford
Penn Keystone Corporation — Derby
Pratt & Whitney Co Inc (Precision Measuring) — West Hartford
Terryville Mfg Co The (stampings for) — Terryville

Integrators
Reflectone Electronics, Inc. — Stamford

Intercommunication
Action Systems Co — Meriden

Interval Timers
Lux Clock Manufacturing Company — Waterbury
Rhodes Inc M H — Hartford

Jacquard
Case Brothers Inc — Manchester

Japanning
H Sessions & Son — Bristol

Jig Borer
Linley Brothers Company — Bridgeport
Moore Special Tool Co (Moore) — Bridgeport
Pratt & Whitney Co Inc — West Hartford

Jigs, Fixtures & Gages
Federal Machine & Tool Co — Bristol

Jig Grinder
Moore Special Tool Co (Moore) — Bridgeport
Pratt & Whitney Co Inc — West Hartford

Junior Automobiles
Power Car Company — Mystic

Keller Machines
Pratt & Whitney Co Inc — West Hartford

Key Blanks
Sargent & Company — New Haven
Yale & Towne Mfg Co The — Stamford

Labels
Naugatuck Chemical Division United States Rubber Co (for rubber articles) — Naugatuck

Label Dispensers
Derby Sealers Inc (pressure-sensitive labels) — Derby

Label Moisteners
Better Packages Inc ("Counterboy"—"Packer") — Shelton
Derby Sealers Inc — Derby

Laboratory Equipment
Eastern Industries Inc — New Haven

Laboratory Supplies
Macalaster Bicknell Company — New Haven

Laces
American Fabrics Company The — Bridgeport
Wilcox Lace Corporation The — Middletown

Lacquers & Synthetic Enamels
Chemical Coatings Corporation — Rocky Hill
I-Sis Chemicals Inc — Stamford

Ladders
Flint Co A W — New Haven

Laminated Metal
Bridgeport Brass Company — Bridgeport

Lamps
Plume & Atwood Mfg Co The (metal oil) — Waterbury

Lampholders—Incandescent and Fluorescent
General Electric Company — Bridgeport

Lamp Shades
Verplex Company The — Essex

Lanterns—Battery Operated
Electrical Div Olin Mathieson Chemical Corp — New Haven

Lathes—Toolroom and Automatic
Pratt & Whitney Co Inc — West Hartford

Lead Plating
Christie Plating Co The — Groton

Leather
Herman Roser & Sons Inc (Genuine Pigskin) — Glastonbury

Leather Dog Furnishings
Andrew B Hendryx Co The — New Haven
The Smith-Worthington Saddlery Co — Hartford

Leather, Mechanical
Auburn Manufacturing Company The (packings, cubs, washers, etc) — Middletown

Letterheads
Lehman Brothers Inc (designers, engravers, lithographers) — New Haven

Lighting Equipment
Fullerton Manufacturing Corp — Norwalk
Miller Co The (Miller, Ivanhoe) — Meriden

Lime
New England Lime Company — Canaan

Lipstick Cases
Scovill Manufacturing Company — Waterbury

Lipstick Containers
Bridgeport Metal Goods Mfg Co — Bridgeport
Plume & Atwood Manufacturing Co — Waterbury

Lithographers
O'Toole & Sons Inc T — Stamford

Lithographing
City Printing Co. The — New Haven
Kellogg & Bulkeley A Division of Connecticut Printers Inc — Hartford
Lehman Brothers Inc — New Haven
A. D. Steinbach & Sons — New Haven

Locks—Banks
Yale & Towne Mfg Co The — Stamford

Locks—Builders
Sargent & Company — New Haven
Yale & Towne Mfg Co The — Stamford

Locks—Cabinet
Excelsior Hardware Co The — Stamford
Yale & Towne Mfg Co The — Stamford

Locks—Special Purpose
Yale & Towne Mfg Co The — Stamford

Locks—Suitcase and Trimmings
Excelsior Hardware Co The — Stamford

Locks—Trunk
Excelsior Hardware Co The — Stamford
Yale & Towne Mfg Co The — Stamford

Locks—Zipper
Excelsior Hardware Co The — Stamford

Loom—Non-Metallic
Wiremold Company The — Hartford

Lubricating System—Mist
Thompson & Son Co The Henry G — New Haven

Lumber & Millwork Products
City Lumber Co of Bridgeport Inc — Bridgeport

Machetes
Collins Company The — Collinsville

Machine Design
Black Rock Mfg Co The — Bridgeport

Machine Overload Monitors
Sperry Products Inc — Danbury

Machine Shop Fabrication
Smith & Winchester Mfg Co The — South Windham (Advt.)

Machine Tools
Farrel-Birmingham Company Inc Ansonia
Pratt & Whitney Co Inc West Hartford
Producto Machine Company The Bridgeport

Machine Work
Banthin Engineering Co Bridgeport
Black Rock Mfg Co The Bridgeport
Farrel-Birmingham Company Inc Ansonia
Fenn Manufacturing Company The (precision parts) Newington
Fuller Brush Company The (precision contract work) Hartford
Hartford Special Machinery Co The (contract work only) Hartford
National Sheradizing & Machine Co. (job) Hartford
New Haven Trap Rock Co The Machine Products Div North Branford
Parker-Hartford Corporation Hartford
Swan Tool & Machine Co The Hartford
Safety Electrical Equipment Corp New Haven
Torrington Manufacturing Co The (special rolling mill machinery) Torrington
Torrington Co The Torrington

Machinery
Conn Machine Repair Inc (special mfg) Bridgeport
Davis Electric Company (Wire and Cable) Wallingford
Fenn Manufacturing Company The (special) Newington
Hallden Machine Company The (mill) Thomaston
Torrington Manufacturing Co The (mill) Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (metal working) Waterbury

Machinery—Automatic
Banthin Engineering Company (new and rebuilt) Bridgeport

Machinery—Automatic Feeding
Technical Design and Development Co Inc Milford

Machinery—Bolt and Nut
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machinery—Cold Heading
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machinery Dealers & Rebuilders
Botwinik Brothers New Haven
Bristol Metal Working Equipment East Hartford
Conn Machine Repair Inc Bridgeport
J L Lucas and Son Fairfield
State Machinery Co Inc New Haven

Machinery—Extruding
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic

Machinery—Metal-Working
Fenn Mfg Co The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury
Pratt & Whitney Co Inc West Hartford

Machinery—Nut
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (forming and tapping) Waterbury

Machinery—Screw and Rivet
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machinery—Wire Drawing
Fenn Mfg Co The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machinery Rebuilding
Conn Machine Repair Inc Bridgeport

Machinery—Wire Straightening
Mettler Machine Tool Inc New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machinery—Wire Straightening and Cutting
Mettler Machine Tool Inc New Haven

Machines
Campbell Machine Div American Chain & Cable Co Inc (cutting & nibbling) Bridgeport
Coulter & McKenzie Machine Co The (special, new development engineering design and construction) Bridgeport

Machines Automatic
Globe Tapping Machine Co Bridgeport

Machines—Automatic Chucking
New Britain-Gridley Machine Division The New Britain Machine Co (multiple spindle and double end) New Britain
Pratt & Whitney Co Inc (Potter & Johnson) West Hartford

Machines—Brushing
Fuller Brush Co The Hartford

Machines—Draw Benches
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machines—Forming
Nilson Machine Company The A H (four-slide wire and ribbon stock) Shelton

Machines—Paper Ruling
John McAdams & Sons Inc Norwalk

Machines—Precision Boring
New Britain-Gridley Machine Division The New Britain Machine Co. New Britain

Machines—Rolling
Fenn Manufacturing Company The Newington

Machines—Slotting
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (screw head) Waterbury

Machines—Special
Fenn Mfg Co The Newington
Fuller Brush Co The Hartford

Machines—Swaging
Fenn Manufacturing Company The Newington
Torrington Co The Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machines—Thread Rolling
Hartford Special Machinery Co The Hartford
Peterson Division Mettler Machine Tool Inc New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machines—Turks Head
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machines—Wire Drawing
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machining—Horizontal Boring
Tucker Machine Co New Haven

Manganese Bronze Ingot
Whipple and Choate Company Bridgeport

Manicure Instruments
W E Bassett Company The Derby

Marine Equipment
Wilcox-Crittenden Div North & Judd Mfg Co Middletown

Marine Reserve Gears
Snow-Nabstedt Gear Corp The New Haven

Marking Devices
Cooney Engraving Co Branford
Hoggson & Pettis Mfg Co The New Haven
Parker-Hartford Corporation (steel) Hartford

Marking Tools
Parker-Hartford Corporation Hartford

Masonry Products
Plasticrete Corp Hamden, Hartford, North Haven, Waterbury, Willimantic

Materials Handling
Hayes-Te Equipment Corp Connecticut Conveyor Division (Conn-Veyor) Unionville
Parsons Co Inc W A (tote pans) Durham

Mats—Newspaper
Lockwood Sons Inc Wm H Hartford

Mattresses
Waterbury Mattress Co Waterbury

Metal Boxes
Durham Mfg Co Durham
Parsons Co Inc W A (tool kits) Durham

Metal Boxes and Displays
Durham Mfg Co The (Designing & Mfg to customers' specifications) Durham
Merriam Mfg Co (Bond, Security, Cash, Utility, Personal Files, Drawer Safes, Custombilt containers and displays) Durham
Middletown Mfg Co Middletown

Metal Cleaners
Apothecaries Hall Company Division The Hubbard Hall Chemical Company Waterbury
Enthone Inc New Haven
MacDermid Incorporated Waterbury

Metal Finishes
Enthone Inc New Haven
Mitchell-Bradford Chemical Co Milford

Metal Finishing
Hartford Industrial Finishing Co Hartford
National Sheradizing & Machine Co Hartford
Waterbury Plating Company Waterbury

Metal Formings
Master Engineering Company West Cheshire
Stanley Pressed Metal New Britain

Metallurgists
Bridgeport Testing Laboratory Inc Bridgeport

Metal Mouldings
Leed Co The H A Hamden

Metal Novelties
H C Cook Co The Ansonia

Metal Products—Stampings
American Brass Company The Waterbury
Plume & Atwood Manufacturing Co Thomaston
Prentice Mfg Co The G E Kensington
J H Sessions & Son Bristol
Scovill Manufacturing Company (Made-to-Order) Waterbury
Stanley Pressed Metal New Britain

Metal Specialties
Excelsior Hardware Co The Stamford
Torrington Co The Torrington

Metal Spinning
Moseley Metal Crafts Inc West Hartford

Metal Stampings
American Brass Company The Waterbury
Better Formed Metals Inc Waterbury
Cly-Del Manufacturing Co. Waterbury
DooVal Tool & Mfg Inc The Naugatuck
Excelsior Hardware Co The Stamford
Greist Mfg Co The New Haven
H C Cook Co The Ansonia
Stanley Humason Inc Forestville
Mohawk Mfg Co (threaded) Middletown
North & Judd Manufacturing Co New Britain
J A Otterbein Company The (metal fabrications) Middletown
J H Sessions & Son Bristol
Patent Button Co The Waterbury
Plume & Atwood Mfg Co The Thomaston
Saling Manufacturing Company Unionville
Swan Tool & Machine Co The Hartford
Terryville Manufacturing Co Terryville
Waterbury Companies, Inc. Waterbury
Waterbury Lock & Specialty Co The Milford

Meters—Gas
Sprague Meter Company Bridgeport

Meters—Parking
Rhodes Inc M H Hartford

Microfilming
American Microfilming Service Co. New Haven
Cine-Video Productions Inc Milford

Milk Bottle Carriers
John P Smith Co The New Haven

Mill Machinery
Torrington Manufacturing Company The Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Milling Machines
Pratt & Whitney Co Inc (Keller Tracer—Controlled Milling Machines) West Hartford
Rowbottom Machine Company Inc (cam) Waterbury

Mill Products
Scovill Manufacturing Company (aluminum, brass, bronze, nickel silver—sheet, rod, wire, tube) Waterbury

Mill Supplies
Wilcox-Crittenden Div North & Judd Mfg Co Middletown

Millwork
Hartford Builders Finish Co Hartford

Miniature Precision Connectors
Gorn Electric Co Stamford

Minute Minders
Lux Clock Mfg Co The Waterbury

Mirror Rosettes and Hangers
Waterbury Companies Inc Waterbury

Mixing Equipment
Easter Industries Inc New Haven

Model Work
B & N Tool & Engineering Co (instruments and timing devices) Thomaston
Conn-Craft Co. (Architectural and Industrial) Waterbury

Mops
Fuller Brush Co The Hartford (Advt.)

Motion Picture Equipment
Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors film splicers and rewinders) Plainville

Motion Pictures
Cine-Video Productions Inc Milford

Motor—Generator Sets
Electric Specialty Co Stamford
Safety Electrical Equipment Corp New Haven

Motors—Electric Timing
Cramer Controls Corporation The Centerbrook

Motors—Hysteresis Synchronous
Beau Electronics Waterbury

Motors—Synchronous
Cramer Controls Corporation The Centerbrook
Electric Specialty Co Stamford

Moulded Plastic Products
Butterfield Inc T F Naugatuck
Scott & Sons Mfg Co Geo S Wallingford
U S Plastic Molding Corp Wallingford
Waterbury Companies Inc Waterbury
Watertown Mfg Co The Watertown

Mouldings
Himmel Brothers Co The (architectural, metal and store front) Hamden

Moulds
ABA Tool & Die Co Manchester
Hoggston & Pettis Mfg Co The (steel) New Haven

Name Plates
Conn-Craft Co. (Metal and Plastic) Waterbury
Cooney Engraving Co Branford
Seton Name Plate Co (metal & plastic name plates and identification tags) New Haven

Napper Clothing
Standard Card Clothing Co The (for textile mills) Stafford Springs

Nettings
Wilcox Lace Corp The Middletown

Newspaper Mats
Lockwood Sons Inc Wm H Hartford

Nickel Anodes
Apothecaries Hall Company Division
The Hubbard Hall Chemical Company
Seymour Manufacturing Co. The Seymour
Waterbury

Nickel Silver
American Brass Company The Waterbury
Bridgeport Brass Company Bridgeport
Plume & Atwood Mfg Co The Thomaston
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp (sheet, strip) New Haven

Nickel Silver Ingot
Whipple and Choate Company The Bridgeport

Night Latches
Sargent & Company New Haven
Yale & Towne Mfg Co Ine Stamford

Nitriding
Hartford Machine Screw Company Hartford

Non-ferrous Metal Castings
Miller Company The Meriden

Nuts, Bolts and Washers
Clark Brothers Bolt Co Milldale
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The Torrington

Office Equipment
Pitney-Bowes Inc Stamford
Underwood Corporation Bridgeport & Hartford
Wassell Organization Inc Westport

Office Printing
Kellogg & Bulkeley A Division of Connecticut Printers Inc Hartford

Offset Printing
City Printing Co. The New Haven

Oil Burners
Miller Company The (domestic) Meriden
Peabody Engineering Corp (Mechanical and/or Steam Atomizer) Stamford
Silent Gow Oil Burner Corp The Hartford

Oil Tanks
Norwalk Tank Co The (550 to 30M gals. underwriters above and under ground) South Norwalk
Whitlock Manufacturing Co The Hartford

Oils—Cutting
Anderson Oil and Chemical Company, Inc. Portland

Optical Cores & Ingots
Plume & Atwood Mfg Co The Thomaston

Otis Woven Awning Stripes
The Falls Company Norwich

Ovens—Electric
Bauer & Company Inc Hartford

Packaging-Engineering
Commerce Packaging Corp Stamford
National Export Corp. (Military and Commercial—equipped for domestic and export packaging, canning, crating and shipping) New Haven

Packaging & Packing
Commerce Packaging Corp Stamford
Mercer & Stewart Co The Hartford

Packing
Auburn Manufacturing Company The (leather, rubber, asbestos, fibre) Middletown
Raybestos Division of Raybestos-Manhattan Inc (Asbestos and Rubber Sheet) Bridgeport

Padlocks
Sargent & Company New Haven
Waterbury Lock & Specialty Co The Milford
Yale & Towne Mfg Co Inc Stamford

Pads—Office
The Baker Goodyear Company Branford

Paints
Tredennick Paint Manufacturing Co The Meriden

Panelyte
Leed Co The H A Hamden

Panta
Moore Special Tool Co (crush wheel dresser) Bridgeport

Pantographic Reproduction & Fabrication
Conn-Craft Co. (Metals, Plastics and Wood) Waterbury

Paperboard
Continental Can Co., Boxboard and Folding Carton Division Montville
Federal Paper Board Co Inc New Haven
New Haven Board & Carton Co The New Haven
Robertson Paper Box Co Montville

Paper Boxes
Atlantic Carton Corp (folding) Norwich
National Folding Box Co Div Federal Paper Board Co Inc (folding) New Haven & Versailles
Mills Inc H J Bristol
New Haven Board & Carton Co The New Haven
Roberston Paper Box Co (folding) Montville

Paper Boxes—Folding and Setup
Bridgeport Paper Box Company Bridgeport
M Backers' Sons Inc Wallingford

Paper Clips
H C Cook Co The (steel) Ansonia

Paper Mill Machinery
Farrel-Birmingham Company Inc Ansonia

Paper—Shredded
Nielsen & Sons Inc John R South Windsor

Paper Tubes and Cores
Sonoco Products Co (Climax-Lowell) Div Mystic

Parallel Tubes
Sonoco Products Co (Climax-Lowell) Div Mystic

Parking Meters
Rhodes Inc M H Hartford

Parts
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Scovill Manufacturing Company (ammunition, electric instrument, electrical appliance, fountain pen, instrument, lighting fixture, ordance, etc.—blanked, stamped, formed, drawn, re-drawn, forged, screw machined, headed, pointed, finished) Waterbury
Torrington Co The Torrington

Pattern-Makers
Farrel-Birmingham Company Inc Ansonia

Pattern Shop
Smith & Winchester Mfg Co The South Windham

Penlights
Bridgeport Metal Goods Mfg Co Bridgeport

Pet Furnishings
Andrew B Hendrix Co The New Haven

Phosphor Bronze
American Brass Company The Waterbury
Bridgeport Brass Company Bridgeport
Miller Company The (sheets, strips, rolls) Meriden
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp (sheets, strip) New Haven

Phosphor Bronze Ingots
Whipple and Choate Company The Bridgeport

Photo Engraving
Dowd Wyllie & Olson Inc Hartford
Wilcox Photo Engraving Co Inc New Haven

Photocopy Equipment and Supplies
Ludwig Inc F G Old Saybrook

Photographic Equipment
Electrical Div Olin Mathieson Chemical Corp New Haven
Kalart Company Inc Plainville

Piano Repairs
Pratt Read & Co Inc (keys and action) Ivoryton

Piano Supplies
Pratt Read & Co (keys and actions, backs, plates) Ivoryton

Pillow Blocks
New Departure Div of General Motors (ball) Bristol

Pins
CEM Company ("Spirol") Danielson
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The (Dowel & Taper) Torrington

Pipe
American Brass Co The (brass and copper) Waterbury
Chase Brass & Copper Co (red brass and copper) Waterbury
Howard Co (cement well and chimney) New Haven

Pipe Fittings
Malleable Iron Fittings Co Branford

Pipe Plugs
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Holo-Krome Screw Corporation The (countersunk) West Hartford

Pipe Plugs—Socketed
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Holo-Krome Screw Corp The West Hartford

Pistols & Revolvers
Colt's Patent Fire Arms Mfg Co Inc Hartford

Plastic Bottles
Plax Corporation Bloomfield

Plastic Buttons
Frank Parizek Manufacturing Co The West Willington

Plastic Engraving
Conn-Craft Co. Waterbury
New England Engraving Co Div of Dura Plastics of New York Inc Westport
Salisbury Products Inc Lakeville

Plastic Extruders
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Jessall Plastics Div of The Electric Storage Battery Co Kensington

Plastic Fabrication
Conn-Craft Co. Waterbury
Dura Plastics of New York, Inc. Westport
Fabricon Corp Unionville
Salisbury Products Inc Lakeville

Plastic Film & Sheet Materials
Gilman Brothers Co The Gilman
Plax Corporation Bloomfield

Plastic Forming
Dura Plastics of New York, Inc. Westport

Plastic Lining Equipment
Enthone Inc New Haven

Plastic Machinery
Black Rock Mfg Co The Bridgeport

Plastic Material
Dura Plastics of New York, Inc. (sheet, rod & tube) Westport

Plastic Molders
Butterfield Inc T F Naugatuck
Conn Plastics Waterbury
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Engineered Plastics, Inc. Watertown
Plastic Molding Corporation Sandy Hook
Rogers Manufacturing Co The Rockfall
Scott & Sons Mfg Co Geo S Wallingford
Specialty Plastics Corp (custom) Shelton
Stanley Chemical Co The East Berlin
U S Plastic Molding Corporation Wallingford
Waterbury Companies Inc Waterbury
Watertown Mfg Co The Watertown

Plastic Pipe and Fittings
Colonial Blower Co Plainville
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Enthone Inc New Haven

Plastic Printing Plates
Lockwood Sons Inc Wm H Hartford

Plastic Rod
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Tape
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Tubing
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Wire Coating Materials
Electronic Rubber Co Stamford

Plastics
Naugatuck Chemical Division United States Rubber Co Naugatuck (Advt.)

Plastics & Resins
American Cyanamid Co Plastics & Resins Div Wallingford

Plastics Machinery
Farrel-Birmingham Company Inc Ansonia

Plastics—Moulds & Dies
Crown Tool & Die Co Inc Bridgeport

Plasticrete Bloc
Plasticrete Corp Hamden, Hartford, North Haven, Waterbury, Willimantic

Platers
Acme Chromium Plating Co New Haven
Christie Plating Co Groton
Chromium Process Company The (Chromium Plating only) Shelton
Water Plating Company Waterbury

Platers' Equipment
Apothecaries Hall Company Waterbury
Enthone Inc New Haven
Lea Manufacturing Co The Waterbury
MacDermid Incorporated Waterbury

Platers Metal
Plume & Atwood Mfg Co The Thomaston

Plating
Christie Plating Co The (including lead plating) Groton
Giering Metal Finishing Inc Hamden
Superior Plating Co Bridgeport
Tec-Plate Inc Windsor Locks

Plating Processes and Supplies
Enthone Inc New Haven
Seymour Manufacturing Co. The Seymour
State Testing Laboratory Inc (plating analyses) Bridgeport

Plumbers' Brass Goods
Keeney Mfg Co The (special bends) Newington
McGuire Mfg. Co. Waterbury
Scovill Manufacturing Company Waterbury

Plumbing Specialties
Risdon Manufacturing Co John M Russell Div Naugatuck

Pneumatic Conveyors
Spencer Turbine Co., The Hartford

Pole Line Hardware
Malleable Iron Fittings Co Branford

Police Equipment
The Smith-Worthington Saddery Co Hartford

Polishing
C & E Metal Finishing Co Hartford
Mirror Polishing & Buffing Co Waterbury

Postage Meters
Pitney Bowes Inc Stamford

Potentiometers—Electronic
Bristol Company The Waterbury

Precision Machine Tool Spindles
Whiton Manufacturing Co (for milling, grinding, boring & drilling) Farmington

Precision Manufacturing
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The Torrington

Precision Revolving Machinery
Whiton Manufacturing Co Farmington

Precision Sheet Metal Fabrication
Milford Fabricating Co Milford

Precision Springs & Wire Forms
Rowley Spring Co Inc The Bristol

Premium Specialties
Waterbury Companies Inc Waterbury

Preservatives—Wood, Rope, Fabric
Darworth Incorporated ("Cuprinol") ("Cellu-san") Simsbury

Pressboard
Case & Risley Press Paper Co (genuine) Oneco

Press Papers
Case Brothers Inc Manchester

Presses
Farrel-Birmingham Company Inc (Hydraulic) Ansonia

Presses—Power
Pneumatic Applications Co The (modernization of presses through conversion to Wichita Air Clutch operation) Simsbury
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Pressure Vessels
Norwalk Tank Co Inc The (unfired to ASME Code Par U 69-70) South Norwalk
Rolock Inc Fairfield
Whitlock Manufacturing Co The Hartford

Printing
Allied Printing Service Inc Manchester
Bussmann Press Inc New Haven
Case Lockwood & Brainard A Division of Connecticut Printers Inc Hartford
City Printing Co. The New Haven
Finlay Brothers Hartford
Heminway Corporation The Waterbury
Hildreth Press Bristol
Hunter Press Hartford
Lehman Brothers Inc New Haven
Miller-Johnson, Inc. Meriden
Taylor & Greenough Co The Wethersfield
T B Simonds Inc Hartford
A D Steinbach & Sons New Haven
The Walker-Rackliff Company New Haven

Printing Machinery
Banthin Engineering Co (automatic) Bridgeport

Printing Plates
Ads Inc Div CSW Plastic Types Inc (mats services) Rocky Hill
Lockwood Sons Inc Wm H Hartford

Printing Rollers
Chambers-Storck Company Inc The (engraved) Norwich

Printing—Silk Screen
Ad-Craft Displays, Inc. Bloomfield

Production Control Equipment
Ripley Company Inc Middletown
Wassell Organization Inc Westport

Profilers
Pratt & Whitney Co Inc West Hartford

Propellers—Aircraft
Hamilton Standard Div United Aircraft Corp (propellers and other aircraft equipment) Windsor Locks

Protective Coatings
Harrison Company The A S (Waxes) South Norwalk

Publishers
O'Toole & Sons Inc The Stamford

Pumps
Sumo Pumps Inc (Deep-well electro-submersible) Stamford
Yale & Towne Mfg Co The Stamford

Pumps—Small Industrial
Eastern Industries Inc New Haven

Punches
Hoggson & Pettis Mfg Co The (ticket & cloth) New Haven

Putty Softeners—Electrical
Fletcher Terry Co The Forestville

Pyrometers
Bristol Co The (recording and controlling) Waterbury

Radiation—Finned Copper
Bush Manufacturing Co West Hartford
G & O Manufacturing Company The New Haven
Vulcan Radiator Co The (steel and copper) Hartford

Radiators—Engine Cooling
G & O Manufacturing Co New Haven

Ratchet Offset Screw Driver
Chapman Co J W Durham

Rayon Staple Fiber
Hartford Rayon Corp The Rocky Hill

Reamers
Atrax Company The (solid carbide) Newington
Pratt & Whitney Co Inc (All types) West Hartford
Pratt & Whitney Co Inc (all types carbide and HSS) West Hartford

Record Equipment
Wassell Organization Inc (filing equipment) Westport

Recorders
Bristol Co The (automatic controllers, temperature, pressure, flow, humidity) Waterbury

Reduction Gears
Farrel-Birmingham Company Inc Ansonia
Snow-Nabstedt Gear Corp The New Haven

Refractories
Howard Company New Haven
Mullite Works Refractories Div H K Porter Co Inc Shelton

Refrigeration
Dunham-Bush Inc West Hartford

Refrigeration Condensing Units
Brunner Division of Dunham-Bush Inc West Hartford

Research & Development
Raymond Engineering Laboratories (Electro-Mechanical) Middletown
State Testing Laboratory Inc (chemical/physical testing) Bridgeport

Resistance Wire
C O Jelliff Mfg Co The (nickel chromium, copper nickel, iron chromium, aluminum) Southport
Kanathal Corporation The Stamford

Respirators
American Optical Company Safety Products Division Putnam

Retainers
Hartford Steel Ball Co The (bicycle & automotive) Hartford

Rigid Plastic Sheet Material
Gilman Brothers Company The Gilman

Riveting Machines
Grant Mfg & Machine Co The Bridgeport
Linley Brothers Company Bridgeport
Patent Button Co The (automatic) Waterbury
Ripley Company Inc Middletown
H P Townsend Manufacturing Co The Elmwood

Rivets
Clark Brothers Bolt Co Milldale
Milford Rivet & Machine Co The Milford
Plume & Atwood Mfg Co The Thomaston
Raybestos Div of Raybestos-Manhattan Inc The (brass and aluminum tubular and solid copper) Bridgeport
Raybestos Div of Raybestos-Manhattan Inc The (iron) Bridgeport

Rivet Setting Machines
Milford Rivet & Machine Co The Milford

Rods
American Brass Company The (copper, brass, bronze) Waterbury
Bridgeport Brass Company Bridgeport
Bristol Brass Corp The (brass and bronze) Bristol
Scovill Manufacturing Company (aluminum, brass, bronze, etc.) Waterbury

Rollers—Bituminous Paving
Gabb Special Products Div E Horton & Son Company Windsor Locks

Roller Skate Wheels
Raybestos Division of Raybestos-Manhattan Inc Bridgeport

Rolling Mills & Equipment
Farrel-Birmingham Company Inc Ansonia
Fenn Mfg Co The Newington
Precision Methods & Machines Inc Waterbury
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Rolls
Farrel-Birmingham Company Inc (Chilled and Alloy Iron, Steel) Ansonia

Roofing
Lurie Inc A Bloomfield

Rotary Files
Atrax Company The (carbide) Newington

Routers
Atrax Company The (solid carbide) Newington

Rubber Chemicals
Naugatuck Chemical Division United States Rubber Co Naugatuck
Stamford Rubber Supply Co The ("Factice" Vulcanized Vegetable Oils) Stamford

Rubber Cutting Machinery
Black Rock Mfg Co The Bridgeport

Rubberized Fabrics
Duro-Gloss Rubber Co The New Haven

Rubber Footwear
Goodyear Rubber Co The Middletown

Rubber Gloves
Seamless Rubber Company The New Haven

Rubber—Handmade Specialties
Seamless Rubber Company The New Haven

Rubber Latex Compounds and Dispersions
Naugatuck Chemical Division United States Rubber Co (coating, impregnating and adhesive compounds) Naugatuck (Advt.)

Rubber Mill Machinery
Farrel-Birmingham Company Inc — Ansonia

Rubber—Molded Specialties
Airex Rubber Prod Corp — Portland
Associated Gaskets, Inc. — Bridgeport
Bond Rubber Corporation — Derby
Seamless Rubber Company The — New Haven

Rubber Products
Airex Rubber Prod Corp — Portland

Rubber Printing Plates
ADS Inc Div CSW Plastic Types Inc — Hartford
Lockwood Sons Inc Wm H — Hartford

Rubber Products—Mechanical
American Felt Co — Glenville
Associated Gaskets, Inc. — Bridgeport
Auburn Manufacturing Company The (washers, gaskets, molded parts) — Middletown
Seamless Rubber Company The — New Haven

Rubber—Reclaimed
Naugatuck Chemical Division United States Rubber Co — Naugatuck

Rubbers
Naugatuck Chemical Div U S Rubber Co (synthetic rubbers and latex) — Naugatuck

Rust Preventives
Anderson Oil and Chemical Company, Inc — Portland
Enthone Inc — New Haven

Rust Removers
Enthone Inc — New Haven

Saddlery
The Smith-Worthington Saddlery Co — Hartford

Safety Belts
Russell Mfg Co — Middletown

Safety Clothing
American Optical Company Safety Products Division — Putnam

Safety Fuses
Ensign-Bickford Co The (mining & detonating) — Simsbury

Safety Gloves and Mittens
American Optical Company Safety Products Division — Putnam

Safety Goggles
American Optical Company Safety Products Division — Putnam

Saw Blades—Hack
Capewell Mfg Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Saw Blades—Hack & Band
Capewell Manufacturing Company — Hartford

Saws, Band, Metal Cutting
Atlantic Saw Mfg Co — New Haven
Capewell Manufacturing Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Saws—Hole
Capewell Manufacturing Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Sawdust
Nielsen & Sons Inc John R (graded hardwood and softwood) — South Windsor

Scissors
Acme Shear Company The — Bridgeport

Screens
Hartford Wire Works Co The (Windows, Doors and Porches) — Hartford
Norlee Aluminum Prod Corp — Bloomfield

Screw Caps
Weimann Bros Mfg Co The (small for bottles) — Derby

Screw Machines
H P Townsend Mfg Company The — Elmwood

Screw Machine Products
Accurate Screw Products Inc (B & S Swiss & Davenports) — Southington
Apex Tool Co Inc The — Bridgeport
Auto Electric Screw Machine Co Inc — Bridgeport
Brown Manufacturing Co (up to 1½" capacity) — New Britain
Consolidated Industries — West Cheshire
Eastern Machine Screw Corp The — New Haven
Fairchild Screw Products Inc — Winsted
Franklin Screw Machine Co The (up to 1½" capacity) — Hartford
Garthwait Mfg Co A E (up to and incl ½") — New Haven
Greist Mfg Co The (up to 1½" capacity) — New Haven
Hartford Machine Screw Co Div of Standard Screw Co (up to 5" capacity) — Hartford
Horberg Grinding Industries Inc (heat treated and ground type only) — Bridgeport

Screw Machine Products (Cont.)
Stanley Humason Inc — Forestville
Independent Screw Machine Products (up to and incl 1¼" capacity) — Hartford
Junior Screw Machine Products Inc — West Haven
Lowe Mfg Co The — Wethersfield
Main Screw Machine Products (davenport & automatics exclusively) — Waterbury
National Automatic Products Company The — Berlin
Nelson's Screw Machine Products — Plantsville
New Britain Machine Company The — New Britain
New Haven Screw Machine Prods Inc (up to 1½" capacity) — Milford
Newton Screw Machine Products Co — Plainville
Olson Brothers Company (up to ¾" capacity) — Plainville
Olson & Sons R P — Southington
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company — Waterbury
United Screw Machine Co — Thomaston
Waterbury Machine Tools & Products Co (Brown & Sharpe and Davenport) — Waterbury

Screw Machine Tools
American Cam Company Inc (Circular Form Tools) — Hartford
Pratt & Whitney Co Inc Reamers, Taps, Dies, Blades and Knurls) — West Hartford
Somma Tool Co (precision circular form tools) — Waterbury

Screws
Allen Manufacturing Company The — Hartford
American Screw Company — Willimantic
Atlantic Screw Works (wood) — Hartford
Bristol Company The (socket set and socket cap screws) — Waterbury
Clark Bros Bolt Co Inc (cap and lag) — Milldale
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corporation The (socket set and socket cap) — West Hartford
Scovill Manufacturing Company — Waterbury
Superior Manufacturing Co The — Winsted
Torrington Co The — Torrington

Screws—Socket
Allen Manufacturing Company The — Hartford
Bristol Co The — Waterbury
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corp The — West Hartford

Sealing Tape Machines
Better Packages Inc ("Counterboy," "Tape-shooter," "Big Inch") — Shelton
Derby Sealers Inc (gummed and pressure-sensitive tapes) — Derby

Seals
Russell Mfg Co (for oven doors and fire bulkheads) — Middletown

Sewing Machines
Greist Mfg Co The (Sewing Machine attachments) — New Haven
Singer Manufacturing Company The (industrial) — Bridgeport

Sharpeners
Gorn Electric Co Inc (electric knife and scissors) — Stamford

Shaving Soaps
J B Williams Co The — Glastonbury

Shears
Acme Shear Co The (household) — Bridgeport

Sheet Metal Fabrications
Lurie Inc A — Bloomfield

Sheet Metal Products
American Brass Co The (brass and copper) — Waterbury
Merriam Mfg Co (security boxes, fitted tool boxes, tackle boxes, displays) — Durham
Parsons Co Inc W A (fabricators) — Durham
Plume & Atwood Mfg Co The — Thomaston
United Manufacturing Co Division of the W L Maxson Corp — Hamden

Sheet Metal Stampings
American Brass Company The — Waterbury
American Buckle Co The — West Haven
DooVal Tool & Mfg Inc The — Naugatuck
J H Sessions & Son — Bristol
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver, steel and other metals and alloys) — Waterbury
Terryville Mfg Co The — Terryville

Sheet Steel
Dolan Steel Company Inc — Bridgeport

Shell Cores
Victors Brass Foundry Inc — Guilford

Shell Molding
Victors Brass Foundry Inc — Guilford

Shells
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver—drawn, stamped—electric socket, screw) — Waterbury
Terryville Mfg Co The — Terryville
Wolcott Tool and Manufacturing Company Inc — Waterbury

Showcase Lighting Equipment
Wiremold Company The — Hartford

Signals
H C Cook Co The (for card files) — Ansonia

Signs
Ad-Craft Displays, Inc. (all types, quantity only) — Bloomfield
Conn-Craft Co. (3 Dimensional, Plastic, Metal & Wood) — Waterbury

Silk Screen Process Printing
Ad-Craft Displays Inc — Bloomfield
Norton Co R H — New Haven
Sirocco Screen prints — New Haven
Stifel & Kufta Inc — New Britain

Silk Screening on Metal
Ad-Craft Displays Inc — Bloomfield
Merriam Mfg Co (Displays and Specialties, to order) — Durham

Silverware
Wallace Silversmiths, Inc. — Wallingford

Simulators
Reflectone Electronics, Inc. — Stamford

Sintered Metal Products
American Sinterings Div of Engineered Plastics Inc (Powder Metal Parts) — Watertown
Raybestos Division of Raybestos-Manhattan Inc — Bridgeport

Sizing and Finishing Compounds
American Cyanamid Company — Waterbury

Slide Fasteners
G E Prentice Mfg Co The — Kensington
Scovill Manufacturing Company (GRIPPER zippers) — Waterbury

Smoke Stacks
Bigelow Company The (steel) — New Haven
Norwalk Tank Co The — South Norwalk

Snap Fasteners
Patent Button Co The — Waterbury
Scovill Manufacturing Company (GRIPPER snap fasteners) — Waterbury

Soap
J B Williams Co The (industrial soaps, toilet soaps, shaving soaps) — Glastonbury

Sound Equipment
Vinco Electronics Corporation — New Haven

Special Machinery
Banthin Engineering Company (complete and/or parts) — Bridgeport
Black Rock Mfg Co The — Bridgeport
Farrel-Birmingham Company Inc — Ansonia
Federal Machine & Tool Co — Bristol
Fenn Mfg Co The — Newington
Hartford Special Machinery Co The — Hartford
H P Townsend Mfg Company The — Elmwood
National Sheradizing & Machine Co (mandrels & stock shells for rubber industry) — Hartford
Swan Tool & Machine Co The — Hartford
Tucker Machine Co — New Haven

Special Parts
Fenn Mfg Co The — Newington
Greist Mfg Co The (small machines, especially precision stampings) — New Haven
Hartford Machine Screw Company Div of Standard Screw Co — Hartford
J H Sessions & Son — Bristol
Torrington Co The — Torrington

Spline Milling Machines
Townsend Mfg Co The H P — Elmwood

Spotwelding
Spotwelders Inc (aluminum, steel, magnesium, titanium & alloys) — Stratford

Spray Painting Equipment and Supplies
Lea Manufacturing Co The — Waterbury

Spring Coiling Machines
Torrington Manufacturing Co The — Torrington

Spring Presses
Townsend Mfg Co The H P — Elmwood

Spring Units
Owen Silent Spring Division American Chain & Cable Company Inc — Bridgeport

Spring Washers
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Terryville Mfg Co The — Terryville

Springs
Central Spring Co (Torsion and Double Torsion) — Terryville

Springs—Coil & Flat
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Barrett Co William L — Bristol
Bristol Spring Manufacturing Co — Plainville
Foursome Manufacturing Co — Bristol
Newcomb Spring Corp The — Southington
New England Spring Mfg Co — Unionville
Peck Spring Co The — Plainville
Stanley Humason Inc — Forestville

Springs—Flat
Atlantic Precision Spring Co — Forestville
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Bristol Spring Manufacturing Co — Plainville
Foursome Manufacturing Co — Bristol
Stanley Humason Inc — Forestville
New England Spring Mfg. Co. — Unionville
Peck Spring Co — Plainville

(Advt.)

Springs—Wire
Banner Spring Corporation Hartford
Barnes Co The Wallace Div Associated Spring Corp Bristol
Bernston Co J W Plainville
Bristol Spring Manufacturing Co Plainville
Colonial Spring Corporation The Hartford
Connecticut Spring Corporation The (compression, extension, torsion) Hartford
Foursome Manufacturing Co Bristol
Stanley Humason Inc Forestville
Newcomb Spring Corp The Southington
New England Spring Mfg. Co. Unionville
Peck Spring Co Plainville
D R Templeman Co (coil and torsion) Plainville

Springs, Wire & Flat
Peck Spring Co Plainville

Sprinklers
Scovill Manufacturing Company (GREEN SPOT) Waterbury

Stamped Metal Products
American Brass Company The Waterbury

Stampings
DooVal Tool & Mfg Inc The Naugatuck
Laminated Shim Company Inc Glenbrook
Foursome Manufacturing Co Bristol
Plume & Atwood Mfg Co The (small) Thomaston
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver, steel and other metals and alloys—automotive, electrical, radio, etc.—deep drawn, enameled) Waterbury
Stanley Pressed Metal New Britain

Stampings—Small
Acme Shear Co The Bridgeport
Barnes Co The Wallace Div Associated Spring Corp Bristol
Barret Co William L Bristol
Bristol Spring Manufacturing Co Plainville
Greist Manufacturing Co The New Haven
Laminated Shim Company Inc Glenbrook
Stanley Humason Inc Forestville
Wire Form Inc Milldale

Stamps
Bell-Adam Steel Stamp Co. (steel) New Britain
Hoggson & Pettis Mfg Co The (steel) New Haven
Parker-Hartford Corporation (steel) Hartford
Schwab & Company (steel) Bridgeport

Stationery Specialties
American Brass Company The Waterbury

Steel Castings
Hartford Electric Steel Corp The (carbon, low alloy and stainless steel castings) Hartford
Malleable Iron Fittings Co Branford
Nutmeg Crucible Steel Co Branford

Steel—Cold Rolled Spring
Barnes Co The Wallace Div Associated Spring Corp Bristol
Detroit Steel Corporation Hamden

Steel—Cold Rolled Stainless
Seymour Manufacturing Co. The Seymour
Ulbrich Stainless Steels Wallingford
Wallingford Steel Company Wallingford

Steel—Cold Rolled Strip
Detroit Steel Corporation Hamden

Steel—Cold Rolled Strip and Sheets
Wallingford Steel Company Wallingford

Steel Goods
Merriam Mfg Co (sheets products to order) Durham

Steel—Ground Flat Stock
Thompson & Son Co The Henry G New Haven

Steel Rolling Rules
Waterbury Lock & Specialty Co The Milford

Steel Stamps
Cooney Engraving Co Branford

Stereotypes
New Haven Electrotype Div Electrographic Corp New Haven

Stop Clocks, Electric
H C Thompson Clock Co the Bristol

Storage Batteries
R A E Storage Battery Mfg Co Glastonbury

Straps, Leather
Auburn Manufacturing Company The (textile, industrial, skate, carriage) Middletown

Strip Steel
Detroit Steel Corporation New Haven
Dolan Steel Company Inc Bridgeport

Structural Mouldings
Leed Co The H A Hamden

Studio Couches
Waterbury Mattress Co Waterbury

Super Refractories
Mullite Works Refractories Div H K Porter Co Inc Shelton

Surface Metal Raceway & Fittings
Wiremold Company The Hartford

Surgical Dressings
Acme Cotton Products Co Inc East Killingly
Seamless Rubber Company The New Haven

Surgical Rubber Goods
Seamless Rubber Company The New Haven

Swaging Machinery
Fenn Mfg Co The Newington
Torrington Co The Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Sweeping Compounds
Nielsen & Sons Inc John R South Windsor

Switchboards Wire and Cables
Rockbestos Products Corp (asbestos insulated) New Haven

Synthetic Fabrics
American Felt Co Glenville

Tableware—Stainless Steel
Wallace Silversmiths, Inc. Wallingford

Tableware—Sterling Silver
Wallace Silversmiths, Inc. Wallingford

Tabulating Equipment—Manual
Denominator Company Inc Woodbury
Veeder-Root Incorporated Hartford

Tanks
Acme Welding Div United Tool & Die Co West Hartford
Bigelow Company The (steel) New Haven
Comco Inc Div of Enthone Inc (steel, alloy and lined) New Haven
Colonial Blower Co (steel and alloy) Plainville
Connecticut Welders Inc (steel, alloy & lined) Wallingford
Enthone Inc New Haven
King Co Alfred B (steel, alloy and lined) North Haven
Norwalk Tank Co The South Norwalk
Rolock Inc (Alloy) Fairfield
Storts Welding Company (steel and alloy) Meriden

Tap Extractors
Walton Company The West Hartford

Tape
Russell Mfg Co (Glass Electrical Insulating Tapes, Glass Fabrics for Plastic Moulding) Middletown

Tapes—Industrial Pressure Sensitive
Seamless Rubber Company The New Haven

Tape Machines
Better Packages Inc (Manual and electric models for case taping) Shelton
Derby Sealers Inc (manual and electric models) Derby

Taps
Hanson-Whitney Company The Hartford
Pratt & Whitney Co Inc West Hartford

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Brownell & Co Inc Moodus

Telemetering Instruments
Bristol Co The Waterbury

Television—Radio
Junior Screw Machine Products Inc West Haven

Testers—Insulation
McNeal J D New Haven

Testers—Insulation Wire & Cable
Davis Electric Company Wallingford

Testers—Nondestructive, Ultrasonic
Branson Instrument Inc Stamford
Sperry Products Inc Danbury

Testing
State Testing Laboratory Inc (environmental, X-ray, tensile, bearings) Bridgeport

Textile Printing Gums
Polymer Industries Inc Springdale

Textile Processors
Amerbelle Corporation Rockville

Thermometers
Bristol Co The (recording and automatic control) Waterbury
Manning Maxwell & Moore Inc Stratford

Thin Gauge Metals
Plume & Atwood Mfg Co The Thomaston
Thinsheet Metals Co The (plain or tinned in rolls) Waterbury

Thread
American Thread Co The Willimantic
Belding Heminway Corticelli Putnam

Thread Chasers
Geometric Tool Division Greenfield Tap & Die Corp New Haven

Thread Gages
Hanson-Whitney Company The Hartford
Pratt & Whitney Co Inc West Hartford

Thread Milling Machines
Pratt & Whitney Co Inc West Hartford

Thread Rolling
Bland Burner Co The Thread Products Div Hartford

Thread Rolling Machinery
Hartford Special Machinery Co The Hartford
Mettler Machine Tool Inc New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Threading Machines
Grant Mfg & Machine Co The (double end automatic) Bridgeport

Timers, Interval
A W Haydon Co The Waterbury
H C Thompson Clock Co The Bristol
Cramer Controls Corporation The Centerbrook
Rhodes Inc M H Hartford

Timing Devices
B & N Tool & Engineering Co (development and model work) Thomaston
Cramer Controls Corporation The Centerbrook
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
Rhodes Inc MH Hartford
United States Time Corporation The Waterbury

Timing Devices & Time Switches
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
M H Rhodes Inc Hartford

Tinning
Thinsheet Metals Co The (non-ferrous metals in rolls) Waterbury
Wilcox-Crittenden Div North & Judd Mfg Co Middletown

Tires
Armstrong Rubber Company The West Haven

Tokens
Scovill Manufacturing Company (bus, street car and subway fare) Waterbury

Tool Bits
Thompson & Son Co The Henry G New Haven

Tool Chests
Vanderman Manufacturing Co The Willimantic

Tool Hardening
Commercial Metal Treating Co Bridgeport

Tools
B & N Tool & Engineering Co (dies, jigs, fixtures, sub-press and progressive) Thomaston
Hoggson & Pettis Mfg Co The (rubber workers) 141 Brewery St New Haven

Tools & Dies
Metropolitan Tool & Die Hartford
Moore Special Tool Co Bridgeport
Swan Tool & Machine Co The Hartford

Tools, Dies & Fixtures
Greist Mfg Co The New Haven

Tools, Dies, Jigs & Fixtures
Lyons Tool & Die (modelwork, jig boring) Meriden
Otterbein Co J A Middletown
Telke Tool & Die Mfg Co Kensington

Tools, Fixtures, Gauges
Fredericks Tool Co J F West Hartford

Totalizers
Reflectone Electronics, Inc. Stamford

Toys
Geo S Scott Mfg Co The Wallingford
Gilbert Co The A C New Haven
N N Hill Brass Co The East Hampton
Terryville Mfg Co The (stampings for) Terryville
U S Plastic Molding Corp Wallingford
Waterbury Companies Inc Waterbury

Transformers
Monarch Electric Co (Allis Chalmers) New Britain

Trucks—Commercial
Metropolitan Body Company (International Harvester Truck chassis and "Metro" bodies) Bridgeport

Truck—Lift
Excelsior Hardware Co The Stamford

Trucks—Skid Platforms
Excelsior Hardware Co The (lift) Stamford

Tube Clips
H C Cook Co The (for collapsible tubes) Ansonia
Weimann Bros Mfg Co The (for collapsible tubes) Derby

Tube Fittings
Scovill Manufacturing Company (UNIFLARE flared tube and LOXIT compression tube) Waterbury

Tubers
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic (Advt.)

Tubes—Collapsible Metal
Sheffield Tube Corp The — New London

Tubing
American Brass Co The (brass and copper) — Waterbury
G & O Manufacturing Co (finned) — New Haven
Scovill Manufacturing Company (Brass and Copper) — Waterbury
Wallingford Steel Co The (stainless and super metals) — Wallingford

Tubing—Flexible Metallic
American Brass Co Metal Hose Branch — Waterbury

Tubing—Heat Exchanger
American Brass Company The — Waterbury
Scovill Manufacturing Company — Waterbury

Tumbling Barrels and Accessories
Nielsen & Sons Inc John R — South Windsor

Tumbling Equipment and Supplies
Esbec Barrel Finishing Corp — Byram

Tumbling Service
Esbec Barrel Finishing Corp — Meriden

Turntables
Macton Machinery Company Inc (industrial & display) — Stamford

Typewriters
Royal McBee Corp — Hartford
Underwood Corporation — Hartford

Typewriters—Portable
Underwood Corporation — Hartford

Typewriter Ribbons and Supplies
Royal McBee Corp — Hartford
Underwood Corporation — Hartford and Bridgeport

Undercleaner Rolls
Sonoco Products Co (Climax-Lowell Div) — Mystic

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Magson Uniform Co. — Kensington

Ultrasonic Equipment
Branson Ultrasonic Corporation — Stamford

V-Belt Drives
Monarch Electric Co (Allis Chalmers) — New Britain

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Jenkins Bros — Bridgeport

Valves—Solenoid
Skinner Electric Valve Div of The Skinner Chuck Co — New Britain

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American Thermos Products Co — Norwich

Vacuum Cleaners
Electrolux Corporation — Old Greenwich
Spencer Turbine Co The — Hartford

Valves—Aircraft
Bridgeport Thermostat Div Robertshaw-Fulton Controls Co — Milford

Valves—Relief & Control
Beaton & Caldwell Mfg Co — New Britain

Valves—Safety & Relief
Manning Maxwell & Moore Inc — Stratford

Vanity Boxes
Bridgeport Metal Goods Mfg Co — Bridgeport
Plume & Atwood Manufacturing Co — Thomaston
Scovill Manufacturing Company — Waterbury

Velvets
American Velvet Co (owned and operated by A Wimpfheimer & Bros Inc) — Stonington
Leiss Velvet Mfg Co Inc The — Willimantic

Venetian Blinds
Findell Manufacturing Company — Manchester
Jennings Company The S Barry — New Haven

Ventilating Systems
Colonial Blower Company — Plainville
Ventilating Supplies Inc — Plainville

Vertical Shapers
Pratt & Whitney Co Inc — West Hartford

Vibrators—Pneumatic
Branford Co The (industrial) — New Britain

Vinyl Extrusion & Moulding Compounds
Electronic Rubber Co — Stamford

Vises
Fenn Manufacturing Company The (Quick-Action Vises) — Newington
Vanderman Manufacturing Co The (Combination Bench Pipe) — Willimantic

Vise Jaws
Dery & Sons Tool & Die Co A L (gang with loading trays) — Pine Meadow

Vise Fixtures
Dery & Sons Tool & Die Co A L — Pine Meadow

Wall Paper
Stamford Wall Paper Co Inc — Stamford

Washers
American Felt Co (felt) — Glenville
Auburn Manufacturing Company The (all materials) — Middletown
Fabricon Corp — Unionville
Plume & Atwood Mfg Co The (brass & copper) — Thomaston
Saling Manufacturer Company (made to order) — Unionville
Terryville Mfg Co The (made to order—all metals) — Terryville

Washers—Felt
American Felt Co — Glenville
Chas W House & Sons Inc (Mills & Cutting Plant) — Unionville

Watches
E Ingraham Co The — Bristol
United States Time Corporation The — Waterbury

Washers—Precision
Laminated Shim Company Inc — Glenbrook

Water Deionizers
Penfield Mfg Co — Meriden

Water Heaters
Whitlock Manufacturing Co The (instantaneous & storage) — Hartford

Water Heaters— Electric
Bauer & Company Inc — Hartford

Water Heaters—Gas or Kerosene
Holyoke Heater Corp of Conn Inc — Hartford

Waxes
Harrison Company The A S (and other protective coatings) — South Norwalk

Waxes—Floor
Fuller Brush Co The — Hartford

Webbing
Russell Mfg Co (Webbing for Safety Seat Belts—all types of webbing) — Middletown

Wedges
Saling Manufacturing Company (hammer & axe) — Unionville

Welded Products
Acme Welding Div United Tool & Die Co — West Hartford

Welding
Aircraft Welding & Mfg Co Inc (aluminum, stainless steel, magnesium) — Hartford
Ansonia Steel Fabrication Co., Inc., (steel, stainless steel and aluminum fabrication) — Ansonia
Connecticut Welders Inc (fabrication & repairs) — Wallingford
Farrel-Birmingham Company Inc — Ansonia
Industrial Welding Company (Equipment Manufacturers—Steel Fabricators) — Hartford
King Co Alfred B — North Haven

Welding—Lead
Connecticut Welders Inc (tanks & coils) — Wallingford
King Co Alfred B — North Haven
Lead Products, Inc. (tanks and fabrication) — Manchester
Storts Welding Company (tanks and fabrication) — Meriden

Welding—Lead Bricks
Lead Products, Inc. — Manchester

Welding Rods
American Brass Company The — Waterbury
Bridgeport Brass Company — Bridgeport
Bristol Brass Co The (brass & bronze) — Bristol

Welding Solder
Lead Products, Inc. (wire, bar and cakes and babbits) — Manchester

Wells
Church Co The Stephens B — Seymour

Wheel Dressers—Diamonds
Russell Inc RR — Newington

Wicks
American Felt Co — Glenville
Auburn Manufacturing Company The (felt, asbestos) — Middletown
Holyoke Heater Corp of Conn Inc — Hartford

Wiffle Ball
Wiffle Ball Inc The — New Haven

Window & Door Guards
Hartford Wire Works Co The — Hartford
Smith Co The John P — New Haven

Wire
American Brass Company The — Waterbury
Atlantic Wire Co The (steel) — Branford
Bartlett Hair Spring Wire Co The — North Haven
Bristol Brass Corp The (brass & bronze) — Bristol
Driscoll Wire Co The (steel) — Shelton
Hudson Wire Co Winsted Div (insulated & enameled magnet) — Winsted
Platt Bros & Co The (zinc and zinc alloy wires) — Waterbury
Plume & Atwood Mfg Co The (brass, bronze, nickel silver) — Thomaston
Scovill Manufacturing Company (Brass, Bronze and Nickel Silver) — Waterbury

Wire and Cable
Continental Wire Corp (for industrial and military applications) — Wallingford
General Electric Company (for residential, commercial and industrial applications) — Bridgeport
Rockbestos Products Corporation (all asbestos, mining, shipboard and appliance applications) — New Haven

(Advt.)

Wire Arches & Trellises
Hartford Wire Works Co The — Hartford

Wire Baskets
Rolock Inc — Fairfield
Wiretex Mfg Inc (Industrial, for acid, heat, treating and degreasing) — Bridgeport

Wire Cloth
Hartford Wire Works Co The — Hartford
C O Jeliff Mfg Co The (all metal, all meshes) — Southport
Pequot Wire Cloth Co Inc — Norwalk
Rolock Inc (Alloy) — Fairfield
Smith Co The John P — New Haven

Wire Dipping Baskets
Hartford Wire Works Co The — Hartford
John P Smith Co The — New Haven

Wire Forming Machinery
Nilson Machine Company The A H — Shelton
Torrington Manufacturing Company The — Torrington

Wire Formings
Master Engineering Company — West Cheshire
North & Judd Manufacturing Co — New Britain
Peck Spring Co — Plainville
Turner & Seymour Manufacturing Co The — Torrington

Wire Forms
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Barnes Co The Wallace Div Associated Spring Corp — Bristol
Bristol Spring Manufacturing Co — Plainville
Central Spring Co (short run orders) — Terryville
Colonial Spring Corporation The — Hartford
Connecticut Spring Corporation The — Hartford
Foursome Manufacturing Co — Bristol
Gemco Manufacturing Co Inc — Southington
Stanley Humason Inc — Forestville
New England Spring Mfg Co — Unionville
Peck Spring Co — Plainville
Templeman Co D R — Plainville
Terryville Manufacturing Co — Terryville
Wire Form Inc — Milldale

Wire Goods
American Buckle Co The (overall trimmings) — West Haven
Scovill Manufacturing Company (To Order) — Waterbury

Wire Partitions
Hartford Wire Works Co The — Hartford
John P Smith Co The — New Haven

Wire Products
Stanley Humason Inc — Forestville
Peck Spring Co — Plainville
Plume & Atwood Mfg Co The (to order) — Thomaston

Wire Reels
Mettler Machine Tool Inc — New Haven
Nilson Machine Company The A H — Shelton
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Wire Rings
American Buckle Co The (pan handles and tinners' trimmings) — West Haven
Stanley Humason Inc — Forestville
Peck Spring Co — Plainville
Templeman Co D R — Plainville

Wire—Specialties
Andrew B Hendryx Co The — New Haven

Wire Springs
Carlson Spring Company (Torsion, Compression, Extension) — Berlin

Wire Straightening and Cutting Machinery
Mettler Machine Tool Inc — New Haven

Wiring Devices
Harvey Hubbell Inc — Bridgeport

Wood Scrapers
Fletcher-Terry Co The — Forestville

Woodwork
C H Dresser & Sons Inc (Mfg all kinds of woodwork) — Hartford
Hartford Builders Finish Co — Hartford

Woven Felts—Wool
Chas W House & Sons Inc (Mills & Cutting Plant) — Unionville

Yarns
Aldon Spinning Mills Corporation The (fine-woolen and specialty) — Talcottville
Ensign-Bickford Co The (jute-carpet) — Simsbury

Zinc
Platt Bros & Co The (ribbon, strip and wire) P O Box 1030 — Waterbury

Zinc Castings
Newton-New Haven Co Inc — West Haven

Zinc Die Castings
Mt Vernon Die Casting Corporation — Stamford
Stewart Die Casting Div Stewart-Warner Corp — Bridgeport

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Business Pattern

(Continued from page 47)

Personal Income

United States personal income established a new high in November. It rose $2.5 billion to a $384.8 billion annual rate which was almost 5% above a year ago. Thus, November became the first month in which personal income surpassed the pre-strike peak of $383.8 billion in June.

The advance came despite the fact that most of the steel industry was shut down until November 7 and many major users had to restrict their November operations because of shortages.

Wage and salary payments—2/3 of total personal income—rose $1 billion. Payroll gains in primary metals, mining, and transportation overcame losses in transportation equipment, fabricated metals, and machinery. Service, government, and other manufacturing wages and salaries also went up.

Government payments of retirement, welfare, and unemployment benefits increased $0.7 billion on a yearly basis chiefly because of a rise in unemployment benefits paid to laid-off auto workers.

This year personal income is expected to total $380 billion. Assuming that the steel strike does not resume and other major labor disputes do not occur, 1960 personal income is estimated at $406 billion. This would be a 7% increase over 1959.

How Your Income Taxes Can Be Cut

(Continued from page 44)

be proper subjects for income taxation.

The public purposes of some other provisions may be so important that, unless some other device can be arranged which will accomplish these purposes more efficiently, we must continue the exceptional tax treatment.

In short, we cannot be sure that the objective of a good income tax system would be best served by an income tax base without any exceptions or special treatment.

The study by the Committee on Ways and Means in aimed at determining which of the present exceptional provisions can meet the tests I've suggested and should, therefore, be retained, and which should be eliminated or modified.

All of us have a large stake in this study. It is my hope that taxpayers generally will be able to obtain from it a clear perspective concerning the advantages to themselves and to the nation of a broad, uniform tax base with low tax rates. Solid support from all of the people will make constructive tax reform a reality.

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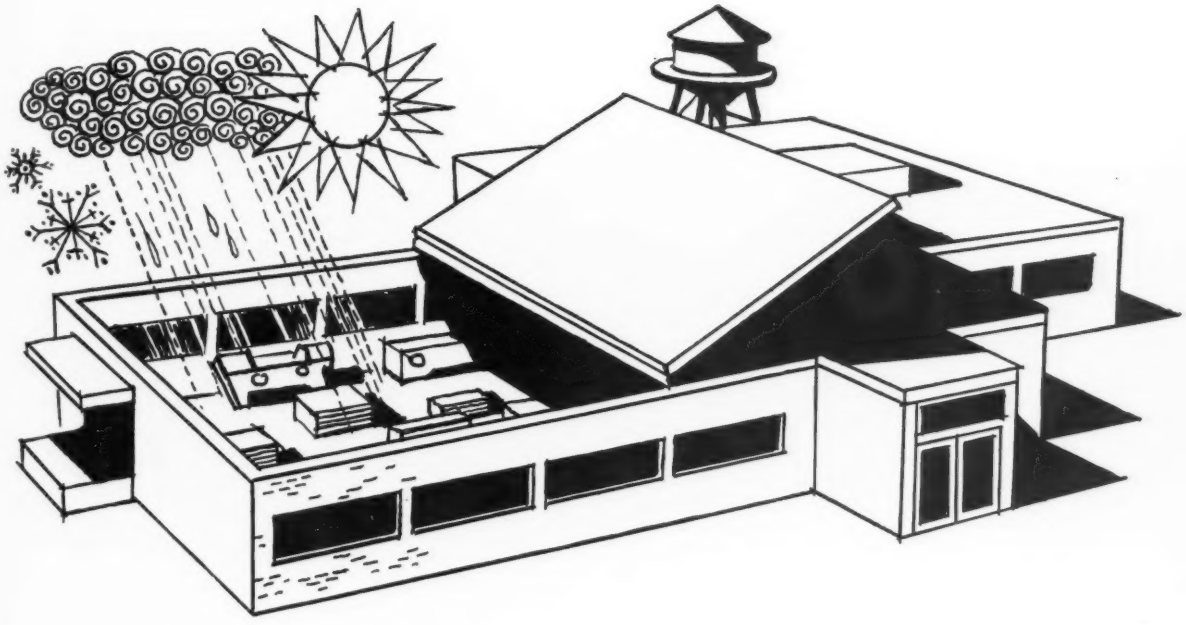

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Humidity Control. Wetness and Dryness affect both personnel and material.

Circulation. Provision must be made for exhausting stale air and introducing in fresh air.

Cleaning. Filters and baffles remove dust, pollen and foreign matter from the air.

These are the four elements of air conditioning. The heat pump is designed to do the complete job but your building may need only the addition of a single feature. Your electric utility companies are ready to assist you and your engineers in working out the best system for your operation.

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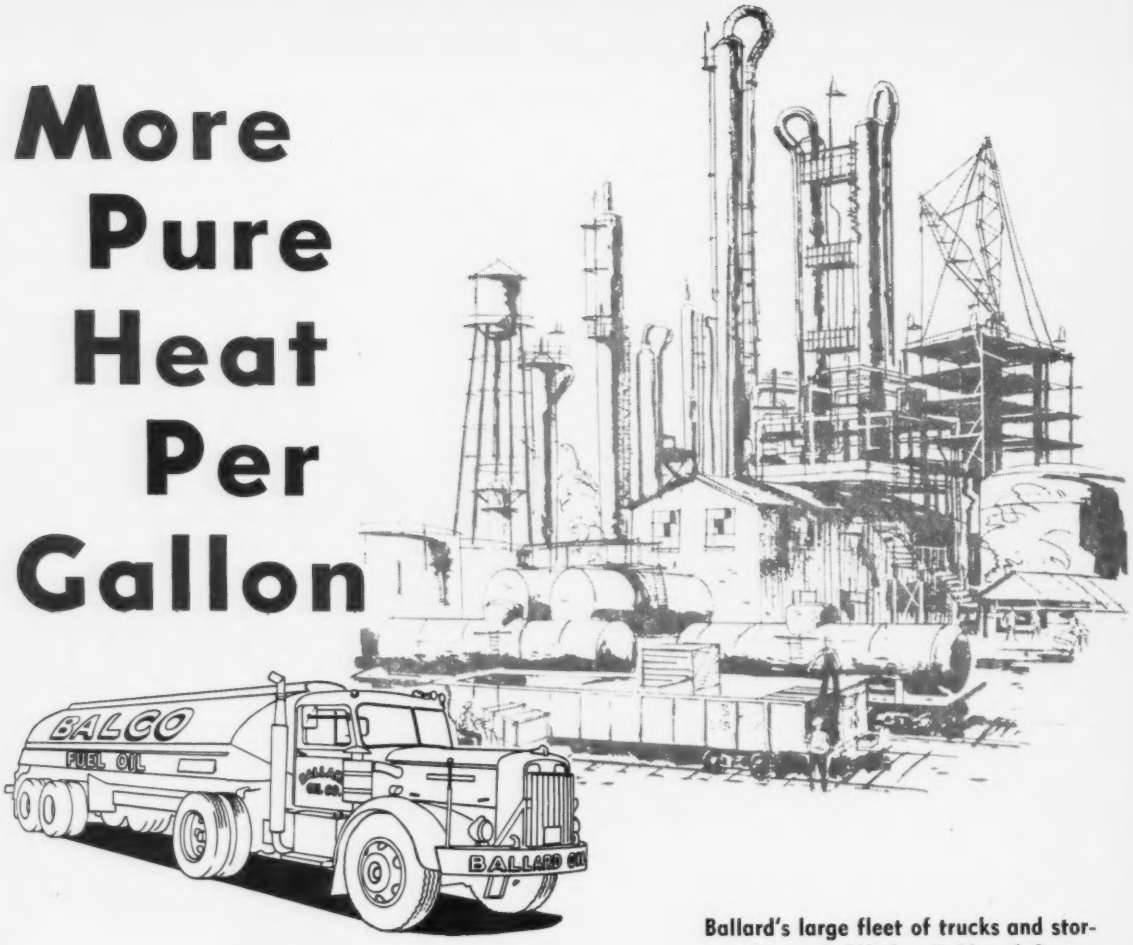

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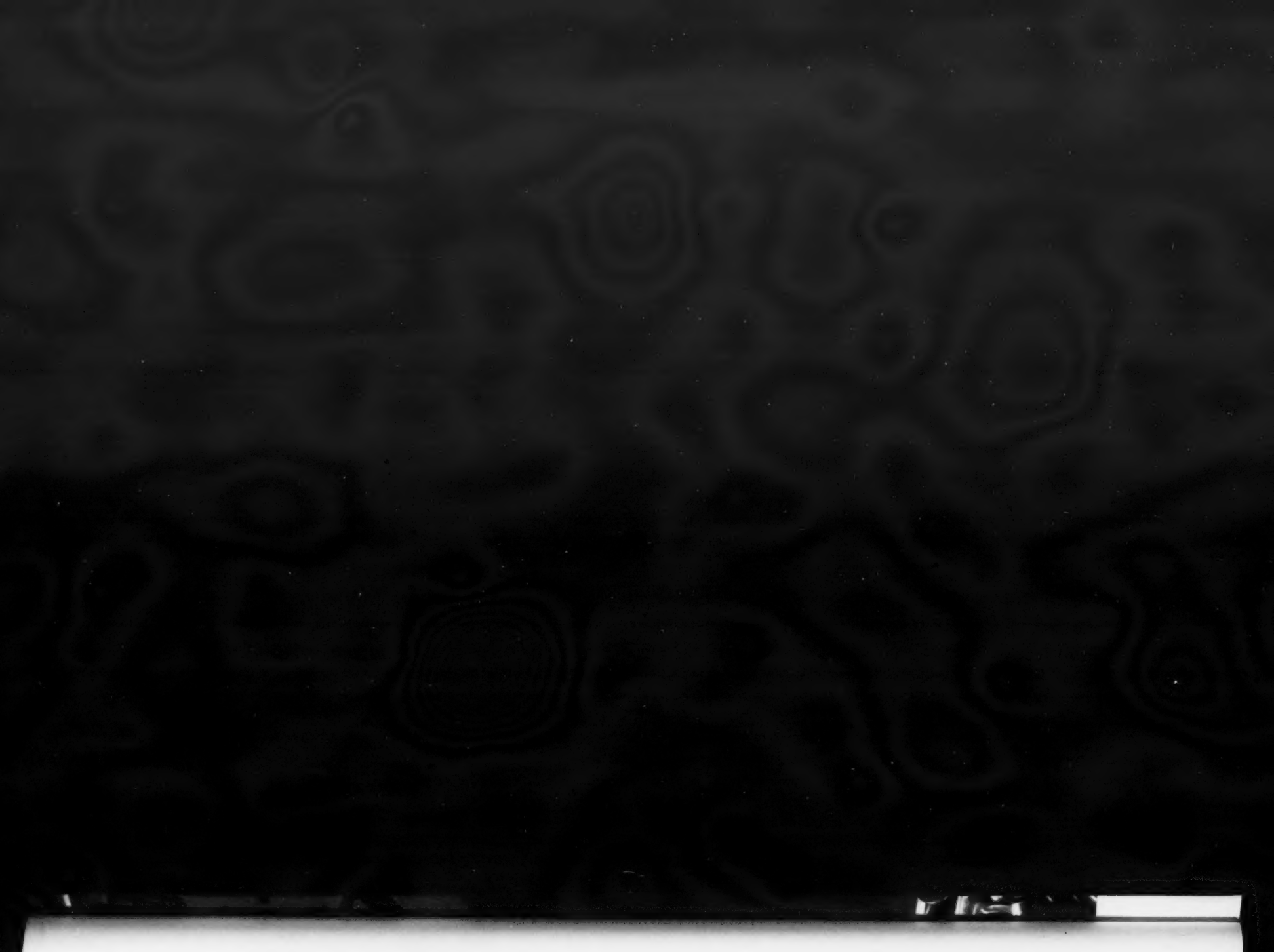
The BALLARD OIL Co.

QUALITY SERVICE BALCO FUEL OILS

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